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ABSTRACT

The 17 papers in this compilation were selected from 29 presentations given at the conference. The collection includes the following papers: (1) "Does Classroom Context Affect Examination Performance?" by Debra Elliot, Toni Strand, and David Hothersall; (2) "Accent on Abilities: Empowering the Learner by Integrating Teaching, Learning, & Assessment," by Jack J. Mino; (3) "Behavioral Strategies for Classroom Management," by Stanley C. Feist; (4) "Computer Activities for Introductory Psychology: Design Considerations," by Eliot Shimoff, B. A. Matthews, and A. C. Catania; (5) "Evaluation of Main Effects and Interactions Software in a Research Methods Course as a Function of Computer Attitudes," by Karen O'Quin; (6) "Male and Female Students' Special Needs: Summary of Internal and External Data on Student Attrition," by Linda L. Dunlap; (7) "Successful Undergraduate Research Projects (Workshop)," by Laura L. Snodgrass and Kathleen E. Harring; (8) "Psychology and the Law: The Rights of Children," by Sara Benn and Judith Gay; (9) "The Hands-On Project in a Course on Adolescent Development: Not Your Usual Term Paper," by Albert H. Gardner; (10) "A Microcomputer Laboratory for the Introductory Course," by James L. May; (11) "Writing in the Teaching of Psychology: A Comparison of Active versus Passive Teaching Methods," by Caroline Salvatore and Laurel End; (12) "Teaching the Logic of Hypothesis Testing Using Computerized Sampling Experiments," by Kenneth M. Rosenberg; (13) "Enhancement of an Experimental Psychology Course by the Inclusion of an Examination of Parapsychological Claims," by Howard M. Reid; (14) "Use of Videotaped Demonstrations of Significant Research in Social Psychology as a Teaching Aid," by John B. Morganti; (15) "Towards a Social Psychology of Teaching Social Psychology," by Ann L. Saltzman; (16) "Sexual Harassment: An Educational Program," by Cathleen T. Moore, Barbara A. Bremer, and Ellen F. Bildersee; and (17) "Role-Playing Exercises for Teaching Research Ethics," by Terry Malcolm. The conference program is included. (JMC)

ED325169

TEACHINGS OF PSYCHOLOGY: IDEAS AND INNOVATIONS

PROCEEDINGS OF THE ANNUAL CONFERENCE ON UNDERGRADUATE TEACHING OF PSYCHOLOGY
(4TH, SPRINGFIELD, MASSACHUSSETTS, MARCH 15-16, 1990).

Editors
Judith R. Levine and Stanley C. Feist

SUNY COLLEGE OF TECHNOLOGY AT
FARMINGDALE, NY

AND

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

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Table of Contents

Introduction 1
Conference Program 2

Does Classroom Context Affect Examination Performance? 7
Deb Elliot, Toni Strand, and David Hothersall

Accent on Abilities: Empowering the Learner by Integrating Teaching, Learning, and Assessment 17
Jack Mino

Behavioral Strategies for Classroom Management 20
Stanley C. Feist

Computers in the Introductory Course: Guidelines for Effective implementation 25
Eliot Shimhoff, B.A. Mathews, and A.C. Catania

Evaluation of "Main Effects and Interactions" Software in a Research Methods Course as a Function of Computer Attitudes 31
Karen O'Quin

Male and Female Students' Special Needs 46
Linda Dunlap

Successful Experiments and Projects for Undergraduates 64
Laura L. Snodgrass and Kathleen Harring

Psychology and the Law: The Rights of Children 116
Sara Benn and Judith Gay

The Hands-on Project in a Course on Adolescent Development: Not Your Usual Term Paper 122
Albert H. Gardner

A Microcomputer Laboratory for the Introductory Course 130
James L. May

Writing in the Teaching of Psychology: A Comparison of Active vs. Passive Teaching Methods 142
Caroline Salvatore and Laurel End

Teaching the Logic of Hypothesis Testing Using Computerized Sampling Experiments 151
Kenneth M. Rosenberg

Enhancement of an Experimental Psychology Course by the Inclusion of an Examination of Parapsychological Claims 156
Howard M. Reid

Use of Videotaped Demonstration of Significant Research in Social Psychology as a Teaching Aid 162
John B. Morganti

Towards a Social Psychology of Teaching Social Psychology 166
Ann L. Saltzman

A Lesson in Psychology to The College Community: Sexual Harrassment Education 193
Cathleen Moore and Barbara Moore

Role-Playing Exercises for Teaching Research Ethics 211
Terry Malcolm

Introduction

The Fourth Annual Conference on Undergraduate Teaching of Psychology was held March 15 and 16, 1990 on the campus of Springfield Technical Community College, Springfield MA, a national historic landmark. The conference was sponsored jointly by the psychology departments of the State University of New York College of Technology at Farmingdale and Springfield Technical Community College.

In addition to a keynote address by Josh Gerow, the conference participants had 29 presentations from which to choose, as well as an array of publishers' exhibits to visit. Seventeen of the presentations are included in these conference proceedings.

The success of this conference was due to the dedicated work of many people. We extend our sincere thanks to the following people for their efforts on behalf of the conference: Dr. John Stefferud of the Psychology Department of Springfield Technical Community College for a superb job handling the local arrangements; Ms. MaryBeth Sclafani of the SUNY Farmingdale Center for Lifelong Learning for providing administrative support and overseeing the entire process; Ms. Barbara Sarringer of the Psychology Department at SUNY Farmingdale for providing invaluable secretarial assistance; and Prof. David Griesé of the Psychology Department at SUNY Farmingdale for lending a much needed hand with the paper selection process.

Judith R. Levine
Stanley C. Feist

CONFERENCE PROGRAM

for

THE 4th ANNUAL CONFERENCE ON UNDERGRADUATE

TEACHING of PSYCHOLOGY:

IDEAS & INNOVATIONS

PRESENTED BY

THE PSYCHOLOGY DEPARTMENTS

of

SUNY COLLEGE OF TECHNOLOGY AT FARMINGDALE, NY

and the

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

on the campus in

SPRINGFIELD, MA

THURSDAY, MARCH 15,
and
FRIDAY , MARCH 16, 1990

in cooperation with the

SUNY FARMINGDALE DEPARTMENT OF CONTINUING EDUCATION

THURSDAY, MARCH 15, 1990

12:00 NOON to 1:30 P.M. REGISTRATION ON THE CAMPUS
Scibelli Hall
Buffet lunch and Publishers' Displays

1:30 PM to 3:00 PM PRESENTATIONS

Room 402: Presider: Virginia Ryan, Sage /Junior College at Albany, NY

1:30 pm Does Classroom Context Affect Examination Performance?
Deb Elliot, Toni Strand, David Hothersall, Ohio State, OH

2:00 pm A Classroom Lie Detector Test.
William R. Balch, Pennsylvania State University, PA

2:30 pm Accent on Abilities: Empowering the Learner by Integrating Teaching, Learning and Assessment
Jack Mino, Holyoke Community College, MA

Room 403: Presider: Barbara Bremer, Philadelphia College of Pharmacy and Science, PA

1:30 pm Behavioral Strategies for Classroom Management
Stanley C. Feist, SUNY College of Technology at Farmingdale, NY

2:15 pm Assessment of Teachers for Evaluative/ Formative Purposes
David Griesé, SUNY College of Technology at Farmingdale, NY

3:15 PM to 4:45 PM PRESENTATIONS

Room 401 Presider: John Morganti, SUNY College at Buffalo, NY

3:15 pm Computers in the Introductory Course: Guidlines for Effective Implementation
Eliot Shimhoff, B.A. Mathews, A.C. Catania
University of Maryland Baltimore County, MD

4:00 pm Evaluation of "Main Effects and Interactions" Software in a Research Methods Course as a Function of Computer Attitudes.
Karen O'Quin, State University College at Buffalo

Room 403 Presider: Ann Saltzman, Drew University, NJ

3:15 pm Role Playing Exercises for Teaching Research Ethics
Terry Glover Malcolm, Bloomfield College, NJ

3:45 pm Male and Female Students' Special Needs
Linda Dunlap, Marist College, NY

4:15 pm Models of Humankind: Women as well as Men
John F. Wing, Wittenberg University, OH

Room 404 Presider: Roger Hoffman, SUNY College of Technology at Farmingdale, NY

3:15 pm Workshop: Successful Experiments and Projects for Undergraduates
Laura L. Snodgrass, Kathleen Harring,
Muhlenberg College, PA

5:00 PM to 6:00 PM	**RECEPTION** Scibelli Hall
6:10 PM to 6:30 PM	**WELCOME** **Andrew M. Scibelli, President,** Springfield Technical Community College
6:30 PM to 7:30 P.M.	**Catered Dinner**
7:30 PM to 8:30 PM	**Invited Address** **Josh Gerow,** noted author and lecturer **If William James Could See Us Now**

JOSH GEROW'S ADDRESS BY COURTESY OF SCOTT FORESMAN & COMPANY

THIS CONFERENCE HAS ENJOYED THE SUPPORT OF THE FOLLOWING PUBLISHERS:

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THE 1990 CONFERENCE COMMITTEE HAS CONSISTED OF THE FOLLOWING PEOPLE:
DR. STANLEY C. FEIST, CHAIRMAN, DR. JUDITH R. LEVINE, PROFESSOR DAVID GRIESE
SUNY COLLEGE OF TECHNOLOGY AT FARMINGDALE, NY
MARYBETH SCLAFANI, SUNY FARMINGDALE CONTINUING EDUCATION DEPARTMENT
DR. JOHN STEFFERUD, SPRINGFIELD TECHNICAL COMMUNITY COLLEGE, MA.

FRIDAY, MARCH 16

8:45 AM **REGISTRATION ON THE CAMPUS**
Continental breakfast
Textbook displays

9:30 AM TO 11:00 AM PRESENTATIONS

Room 402 Presider: Linda Dunlap, Marist College, NY

9:30 am Psychology and the Law: The Rights of Children
Sandra Benn, Judith Gay, Chestnut Hill College, NJ

10:00 am The Use of Literature in Teaching Developmental Psychology
Chris J. Boyatzis, Wheelock College, MA

10:30 am The Hands-on Project in a Course on Adolescent Development: Not Your Usual Term Paper
Albert H. Gardner, University of Maryland, MD

Room 403 Presider: David Wheeler, Robert Morris College, PA

9:30 am A MacIntosch Based Learning Guide for Introductory Psychology
Fred Halper, Essex County College, NJ

10:15 am A Microcomputer Laboratory for the Introductory Course
James L May, North Adams State College, MA

Room 404 Presider: Janet M. Kulberg University of Rhode Island, RI

9:30 am Panel: Teaching a Psychology of People: Appreciating Diversity in the Undergraduate Curriculum
Albert J. Lott, Janet M. Kulberg, Yvonne Wells
University of Rhode Island, RI
Alice Brown-Collins, Wellesley College, MA

11:00 am **COFFEE BREAK**

11:30 AM to 1:00 PM PRESENTATIONS

ROOM 402 Presider: Lawrence Sherman, Miami University, OH

11:30 am The Effect of Audiotaped Verses, Written Supplementary Material on Student Grades and Felt Enjoyment
Virginia V. Ryan, Sage/ Junior College at Albany, NY

12:00 noon The Effect of a Collaborative Learning strategy on Content Mastery and Intellectual Development in an Introductory Psychology Course
Charles LaJeunesse, College Misericordia , PA

12:30 pm Writing in the Teaching of Psychology: A Comparison of Active vs Passive Teaching Methods
Caroline Salvatore, Laurel End, Salve Regina College, RI

see next page for more sessions

Room 403 Presider: Eugene Indenbaum, SUNY College of Technology at Farmingdale, NY

11:30 am The Rat Olympics: A Special Laboratory Experience
Milt Hammond, Norwich University, VT

12:00 noon Teaching the Logic of Hypothesis Testing Using Computerized Sampling Experiments
Kenneth M. Rosenberg, SUNY Oswego, NY

12:30 pm Enhancement of an Experimental Psychology Course by the Inclusion of an Examination of Parapsychological Claims
Howard M. Reid, State University College at Buffalo, NY

Room 404 Presider: Judith R. Levine, SUNY College of Technology at Farmingdale, NY

11:30 am Workshop: A Lesson in Psychology to the College Community: Sexual Harrassment Education
Cathleen Moore, Barbara Bremer
Philadelphia College of Pharmacy and Science, PA

1:15 PM to 2:15 PM **CATERED LUNCH**

2:15 to 3:45 PM **PRESENTATIONS**

Room 402 Presider: Joan Chrisler, Connecticut College, CT

2:15 pm Classroom Exercises in Social and Group Psychology
R. Steven Schiavo, Wellesley College, MA

2:45 pm Towards a Social Psychology of Teaching Social Psychology
Ann L. Saltzman, Drew University, NJ

3:15 pm Use of Videotaped Demonstration of Significant Research in Social Psychology as a Teaching Aid
John B. Morganti, State University College at Buffalo, NY

Room 403 Presider: Virginia Nicholas Quinn, Northern Virginia Community College, VA

2:15 pm Cooperative Pedogogies in Psychology: Implications from Social Psychology for Active Learning
Lawrence W. Sherman, Miami University, OH

3:00 pm Don't Start With Chapter One !
Howard P. Wright, Sr., University of Maine, ME

Reception Area Presider: Paul Bedell, SUNY College of Technology at Farmingdale, NY
2:15 pm Publisher's Round Table
Do you want to write a text-- or review one ? Here is your opportunity to ask questions and make suggestions. Learn about latest changes in the publishing industry and the newest technology to support your courses.

3:45 to 5:00 pm **SYLLABI EXCHANGE AND ROUND TABLE DISCUSSION**
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DOES CLASSROOM CONTEXT AFFECT EXAMINATION PERFORMANCE?

Debra Elliott, Toni Strand and David Hothersall

Department of Psychology

The Ohio State University

Presented at the Fourth Annual conference on

Teaching of Psychology: Ideas and Innovations,

March 15-16, 1990

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We assessed the role and importance of contextual and retrieval cues in examinations for an introductory psychology course. The encoding specificity hypothesis, suggested primarily by Tulving and his associates (Flexser & Tulving, 1978; Tulving, 1983; Tulving & Thompson, 1973), proposes that retrieval becomes more successful as the encoding and retrieval situations become more similar. According to this model, the complex set of representations known aa a memory consists of both the target information and various other events noted at the time of encoding. In a classroom situation both the lecture material and the context in which it is presented might be encoded in memory.

Research has shown that a wide variety of relevant events appear to be stored with the designated event: word associates presented with targets (Thompson & Tulving, 1970), type of sentence context (Morris, 1978), internal physical state (Eich, Weingartner, Stillman, & Gillin, 1975; Peterson, 1974), and mood state (Murphy, 1977; Bower, 1981). In an especially creative experiment Godden and Baddeley (1975) had student divers learn lists of words wither underwater or on land. Tested for recall in either the same environment in which the list had been learned, or in the other environment, students on average recalled 47% more words when the study and test environmental contexts were the same than when they were different.

In everyday and academic life we seldom encounter such marked differences between learning and retrieval contexts. Nevertheless these data are relevant to the teaching of psychology and specifically to the selection of the testing environment. In large introductory courses at the college and university level, it is often the case that examinations are administered in a classroom or lecture hall different from the one in which the lecture material is presented. For example, students may meet in small sections for the lectures and then be examined en masse in a large lecture room. Or some students might be assigned to a different room while others take the examination in their regular classroom. Such arrangements create a possible incongruity between learning and testing situations for some students and not for others.

In a 2 x 2 factorial design Abernathy (1940) varied the room and the instructor when hour examinations were given to introductory psychology students. Students in a different room showed lower performance, while changes in instructor had little effect. In addition to supporting the effect of room context on exam performance, Abernathy also noted that superior students tended to be less affected than poorer students, though she offered no relevant data. More recently Metzger, Boschee, Haugen and Schnobrich (1979) investigated the role of classroom context using a multiple time series design. Two sections of an undergraduate, introduction to physical geography course (25 students per section), taught by the same instructor, were given weekly examinations. The first three examinations were given in the students' classrooms and provided baseline data. In week 4 one section was examined in their own classroom; the other section in a different classroom. In week 5 the examination conditions were reversed. In week 6 they were all examined in their own classrooms. Metzger and his colleagues found no differences between the two classes during the three week baseline period. In weeks four and five students taking the examination in a different classroom made more errors than did students examined in their own classrooms. Both results were statistically significant. The sixth week showed a return to no difference between the two groups. In addition students who performed well during the three week baseline period showed more errors than did lower performing students when examined in a different classroom. So this experiment replicated Abernathy's finding that a change in context has a detrimental effect on examination performance. Contrary to Abernathy's suggestion, these results showed the better students to have been more adversely affected than poorer students.

The purpose of the research we report today was to replicate and extend this research to a large introductory psychology course. Our specific aim was to determine whether or not contextual incongruity is sufficient to interfere with retrieval and thus to influence a student's examination score.

Methods

The subjects in this experiment were 2,449 introductory psychology students enrolled in Psychology 100 at The Ohio State University in the Autumn Quarter of 1989. Each student took two midterm examinations and a final examination. These examinations determined 80% of the student's final grade. The two midterm examinations, which were the primary concern of this research, consisted of 50 multiple-choice questions, worth one point each. These questions were written by examination committees and approved by all current Teaching Associates and the coordinators of the Psychology 100 program.

As seen in Figure 1, for the first midterm examination, the location of the examination administration for one-half of the students was the classroom of instruction (same context); the examination location for the other half of the students was an alternate classroom (changed context). For the second midterm examination, this arrangement was reversed, counterbalancing the order of conditions. Thus, all students received a midterm examination in both their own classroom and a different classroom. Both examinations were administered by Teaching Associates to their own classes. No explanation of the classroom assignments was given to the students at the time of the examinations but they were fully debriefed by their classroom instructors at the end of the quarter.

Results

Figure 1 portrays the overall results. A two-way analysis variance showed a main effect of *order* of conditions, *F(1,2447)=8.83, p=.003*, and examination, *F(1,2447)= 95.43, p=.0001*. There was no significant interaction, *F(1,2447)<1*. The examination effect was expected, as the second examination of the quarter was simply a more difficult examination overall. The order effect, however, suggests an interesting interaction of examination room and time of test, which can be seen more clearly in the planned comparisons of examination location condition.

It was not possible to create a completely crossed design, as Examination #2 clearly could not be given before Examination #1. Thus, the critical comparisons between examination location conditions (own room versus alternate room) had to be carried out separately for each examination. Figure 2 displays the results.

For Examination #1, those taking the test in their own lecture room scored significantly better than those taking it in an alternate location, T(2433.6)= 2.86, p=.004, showing the predicted context effect. For Examination #2, however, those taking the test in their own lecture room scored significantly worse than those taking it in an alternate location, T(2414.4)= 2.60, p=.009, indicating an apparent reversal of the effect.

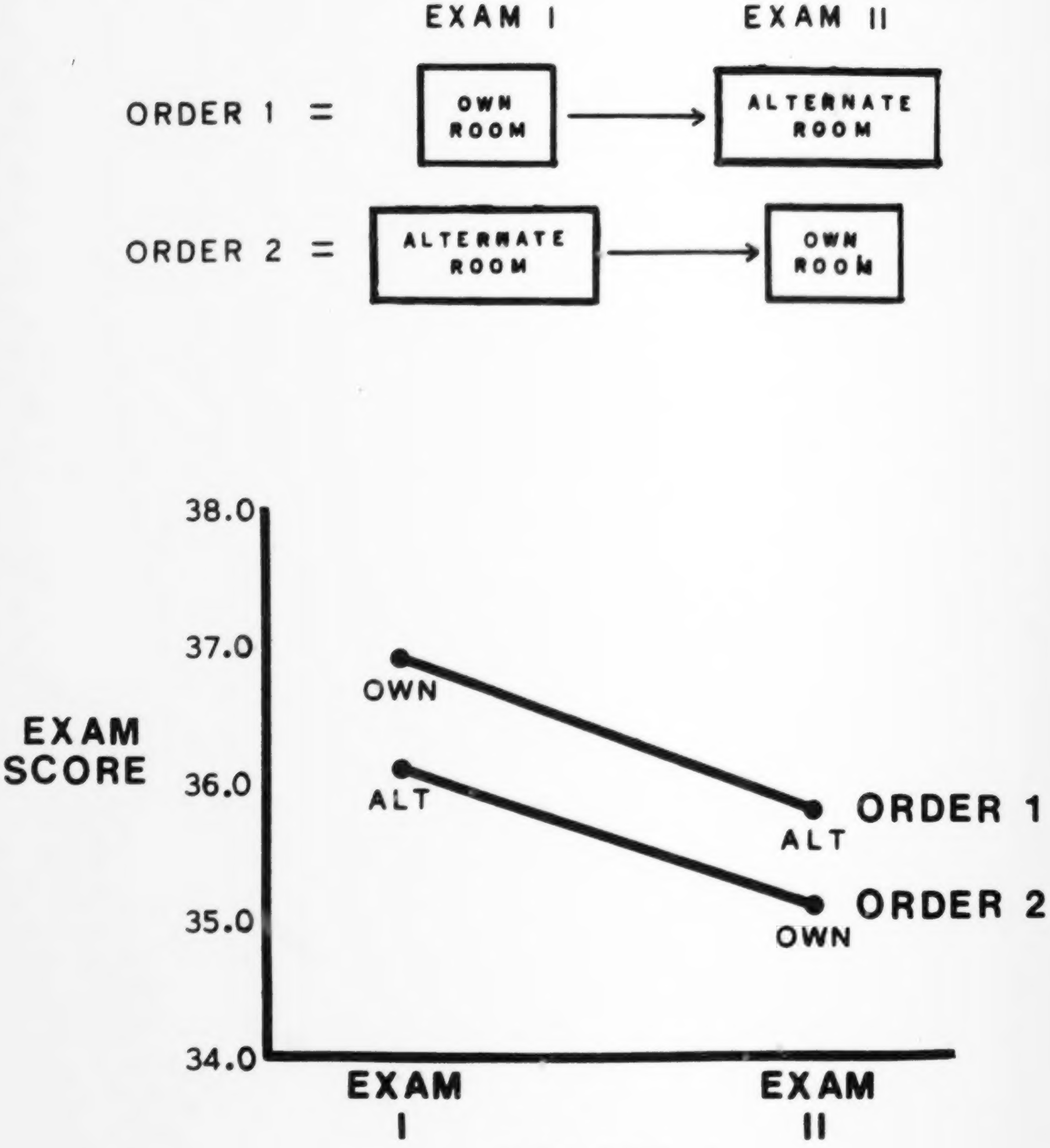
Discussion

The pattern of results reported above appears somewhat equivocal, at first glance. Granted, the absolute magnitude of these effects (approximately three-quarters of an exam point on both exams) is not large and it may be tempting to attribute them entirely to sample size; however, the fact that they are in different directions suggests that something interesting may be occurring. The explanation, we believe, lies in the content of the course work itself. In between Exam #1 and Exam #2, the memory chapter was both covered in lecture and assigned from the textbook. This chapter *included* a discussion of the encoding specificity hypothesis. That knowledge may have allowed some of the students, those going to the alternate location, to compensate for a portion of the context effects. In fact, anecdotal evidence from many of the teaching associates substantiated our contention that students realized the relevance of the encoding specificity hypothesis and the room change for one of their two exams. In order to test this hypothesis, it would be necessary to perform the same study in an introductory course unrelated to psychology.

The next point of interest relates to the context effects relative to student performance level. Our post hoc analyses did not reveal a significant interaction, suggesting the context effects similarly influenced the upper and the lower students for our exams.

The final question to consider is why was the magnitude of effect in our study much smaller than in the other studies previously mentioned? We hypothesize this is due to our exams being entirely based on the textbook. Clearly, this implies the dominant context of learning is not the classroom but rather the textbook itself. To test this hypothesis, we plan to carry out a study this summer quarter introducing material into the lecture that cannot be found within the textbook. This material would have the classroom as its dominant context.

In conclusion, we plan to continue the study of contextual influences on examination performance. This will involve both the summer quarter study I just described, as well as a proposed study with the Sociology Department's introductory course, to eliminate the possible influence of discussing the encoding specificity hypothesis in class.


EXAM I
EXAM II
ORDER 1 =
OWN ROOM
ALTERNATE ROOM
ORDER 2 =
ALTERNATE ROOM
OWN ROOM
38.0
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OWN
ORDER 1
ORDER 2
EXAM I
EXAM II

FIGURE 1

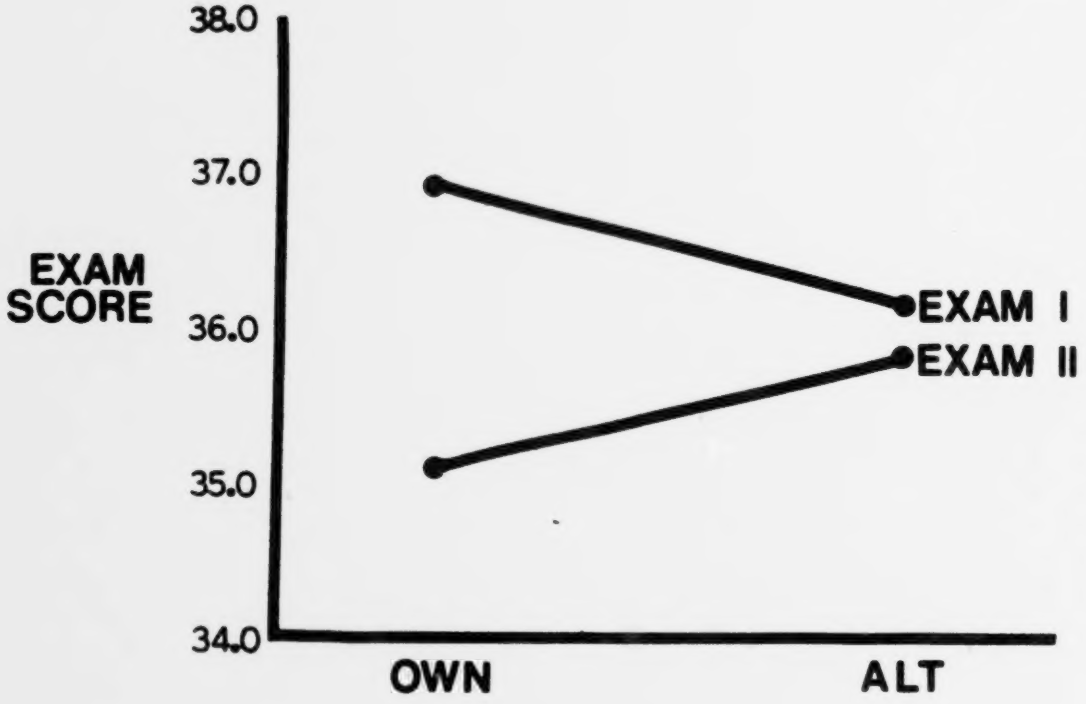

FIGURE 2

ACCENT ON ABILITIES: EMPOWERING THE LEARNER BY INTEGRATING TEACHING, LEARNING & ASSESSMENT

Jack J. Mino

Holyoke Community College
303 Homestead Avenue
Holyoke, Massachusetts 01040

Given the current state of boredom and emphasis on rote learning in the "typical" college classroom, how can instructors empower students to develop higher-order learning abilities by studying Psychology? More importantly, how can they enable students to transfer these abilities developed in Psychology to other disciplines and beyond the boundaries of the academic institution? With its emphasis on theory, research and practice, a course in Educational Psychology presents the ideal context for exercising educational innovations. The innovation in this case focuses on the students' development of higher-order learning abilities such as analysis and communication. This ability-based approach (ABE), provides an integrated curriculum framework which links teaching to learning and learning to assessment.

The ABE approach was pilot-tested over the course of two semesters in Educational Psychology: Fall 88 & Fall 89. Approximately 30 students in each class were required to demonstrate the following course outcomes: (1) Communicate psychological concepts and analytic findings in writing, and (2) analyze teaching and learning using psychological theory supported by empirical data. Learning educational psychology by doing educational psychology, students were required to integrate course content within a performance-based process of assessment. Through a series of four developmental assessment activities linked to the subject matter, student performance was assessed according to specific behaviorally-based criteria for each of the course outcomes. A generic assessment instrument was designed to assist both the instructor and the student in the assessment process. Since students were expected to demonstrate their learning in two major ability areas throughout the semester, student performance was assessed according to the same criteria four times during the semester. Thus, the first assessment activity and the fourth assessment activity acted as the pre-post test. Following completion of the assessment activities during the semester, a survey consisting of statements identifying the purposes of the ability-based approach was administered.

Findings from the Fall-88 pilot-test indicated that approximately 60% of the students assessed (N=32), demonstrated higher-order learning abilities in the areas of analysis and communication. Approximately 70% of the students surveyed "agreed" or "strongly agreed" that the ability-based approach enabled them to develop these higher-order learning abilities and that they were able to transfer them to other disciplines and other non-academic learning situations.

Findings from the Fall-89 pilot-test indicate that both student perceptions of their performance and their actual performance (as judged by the instructor) demonstrate an increase in ability of approximately 20%. Approximately 80 - 99% of the students evaluated their assessment experience as a more useful means of developing their learning abilities. Student performance, student's perceptions of their performance, as well as their perception of the effectiveness of the ability-based approach, suggest that the ABE approach facilitates the development of higher order learning abilities.

The implications of the ABE approach are especially noteworthy in the area of student assessment. First and foremost, with its emphasis on performance-based assessment rather than testing, emphasis not only on knowing but doing, students can demonstrate and develop such learning abilities as application, analysis, and communication. Second, written feedback which is timely, concrete and specific regarding student learning strengths and weaknesses is a critical element in the assessment process. Feedback during assessment is the most "teachable moment" in the student's learning experience, in effect, explaining, guiding and motivating students to develop their knowledge and abilities (Loacker et al., 1986). To insure that the feedback is meaningful, reliable and useful to the student, multiple samples of student behavior must be assessed. Thus, the course must provide multiple opportunities for students to demonstrate their developing abilities. In addition, feedback and subsequent student learning can be dramatically improved when instructors target their responses to the following questions: "What is the key error? What is the probable reason the student made this error? How can I guide the student to avoid the error in the future? What did the student do well that could be noted?" (Elawar & Corno, 1985, p. 166).

Third, on a more practical note, the ABE approach requires much time and effort from the instructor in the design, implementation and evaluation of the assessment process. Grading is especially problematic. Even with explicit criteria for performance the instructor must arbitrarily assign point values for the appropriate bits of knowledge presented and the appropriate level of ability demonstrated. Fourth, as a bridge between teaching, learning, and assessment, the ABE approach requires consistency between teaching and assessment, i.e., assessment must reflect both the content covered and the abilities practiced in the classroom. Finally, in order to avoid a purely academic exercise of content knowledge and learning abilities, and to stimulate student motivation, the assessment experience must be constructed with an emphasis on a realistic context. This emphasis on a "real world" context may also facilitate transfer of knowledge and abilities between courses and beyond the boundaries of the academic environment.

In conclusion, if teaching and learning effectiveness depends on goals, then with the goals of increasing learning, retention and transfer, the data suggests that the ABE approach provides the conditions which enable students to develop and demonstrate higher order learning abilities. With more time and effort on the task of meaningful thinking and learning, the assessment experience itself can become a significant instrument for the development of student abilities.

OVERVIEW OF THE ASSESSMENT PROCESS IN EDUCATIONAL PSYCHOLOGY

Assessment I: **College Commentary**
Stimuli: Audiotape "Who is Killing Excellence in the Schools?"

Performance: Written three page commentary on college experience

Assessment II: **Learner Profile**
Stimuli: Kolb Learning Style Inventory
Audiotape "Learning Styles, Teaching Styles"

Performance: Construction of a Personal Learner Profile

Assessment III: **Classroom Observation Report**
Stimuli: Actual Classroom

Performance: Written five page report in APA format

Assessment IV: **Teaching Learning Plan**
Stimuli: Student's Own Teaching Performance

Performance: Written Lesson Plan (with accompanying materials)
Written Analysis of Teaching Presentation

Abilities:

Communicate psychological concepts and analytic findings in writing.
Analyze teaching and learning using psychological theory supported by empirical data.

**Each assessment utilizes a common instrument describing criteria, judgment, feedback and self assessment.*

Behavioral Strategies for Classroom Management

Stanley C. Feist

SUNY College of Technology at Farmingdale

Behavioral Strategies for Classroom Management

Stanley C. Feist, Ph.D

Many excellent teachers seem recently to be having more problems in classroom management than in past times. Instead of lighting intellectual fires, they (the teachers) seem to be spending an inordinate amount of time trying to maintain discipline. For many the focus becomes one of controlling misbehavior rather than promoting the appropriate behaviors that will maximize the learning experience. The students in your class are not mandated to be there; on some level, each of them has chosen to be at college. Therefore, there should be no reason for any of us to have to deal with discipline. Nevertheless, discipline problems do occur.

Experience alone does not automatically teach one to deal with students in the most effective way. Many college instructors have had experience as teaching assistants in graduate school but never studied teaching methodology nor had expert supervision of actual teaching. Many are excellent teachers who know the subject and how to explain the material clearly and well. However, these same excellent teachers may not enjoy the classroom as fully as possible because they are not familiar with effective classroom management techniques.

It is certainly ***not*** true that "he who can, does and he who cannot, teaches." Effective teaching is a science, an art and a demanding profession. There are scientifically validated behavioral procedures and techniques of operant conditioning which, when properly applied, can make life much easier and more rewarding for college teachers-- and for the students.

These procedures require that you, the teacher, essentially make a contract with your students. The student must know what to expect in your class so that s/he can make the choice to meet your requirements or choose not to take your course. It must be made abundantly clear that this is not high school; the rules here are different. While the burden of learning is on the student, it is the earnest desire of each of us to teach as well as we can. Each of us here is a subject matter specialist with excellent credentials in a specific discipline; we know the subject matter; however, it is the student who must do the learning. It is our duty to provide optimum learning conditions.

In order to do this, the instructor first must carefully consider the subject matter to be mastered in the course. Next, the instructor must decide how this material can best be learned by the student. How can the learning environment in the classroom be optimized for the student. Once these considered decisions are made, as much of the instructor's thinking as possible needs to be shared with the student; the student needs to fully understand the rules. A course outline should include all of the pertinent information concerning the course. It needs to specify the work which must be completed, the due dates, how each bit of work will be evaluated toward the final grade, dates and types of exams which will be administered, value of the exams to the final grade, the attendance and lateness policy you will adhere to, and any other special projects or specific requirements for your course. It is necessary to specify all of the elements which will be evaluated for a final grade and the value of each element. Everything needs to be in writing because the student is initially overwhelmed by the amount of information presented at the start of each semester and may not remember exactly what has been said in class. A written notice provides information that the student can refer to as a memory refresher and reinforcement. It also protects the teacher from being accused of arbitrary behavior.

Without a doubt, each of us is fully aware that we are not teaching at a Harvard or Yale; we are teaching a large number of underprepared students. We must take into consideration that their skills have not been developed to the extent that we would like at this point in their lives. You can make a significant contribution to the life of your student! Yet, you can make the difference! We, you and I, as well as our students, grow only in response to the consistent demands placed upon us. It is important that we make our demands clear and then remain consistent in following through so that there is frequent reinforcement. We may not like to admit it, but I know that I frequently seek the path of least resistance in many situations and I have noticed that many of my comrades and colleagues do likewise; why would we expect our students to behave differently? Helping the student to develop to his/her utmost ability requires that you apply consistent and demanding, but fair classroom expectations. The emphasis is on the positive aspects of fair and reasonable demands and expectations for the students we have in our classes; there should be no surprises. If the demands are perceived as unfair or too difficult, the student may give up and not even be willing to try to achieve. Students today are different than those of the past; they have not learned to appy themselves in the same way. It is up to us to help our students learn that behavior so necessary for success in our society. It is also evident that every student does not expect or even want an 'A' in the course; many students are perfectly satisfied with a grade of 'C'. A clear statement of the student behaviors necessary for that accomplishment will help the student reach the desired goals. In addition, when your requirements are clear and consistent, the students will respect you more; they may argue and try to get you to relent and make an exception (certainly there may be some occasions when, in all fairness, an exception is required) but, as a helping professional, it is necessary to be uniform in the reinforcement of your requirements.

One needs to be aware of the subtle, perhaps extraneous, reinforcers that are in action. As an example, the author of one of the psychology textbooks tells of teaching a unit on operant conditioning. The students decided among themselves to do an experiment to see if operant conditioning really works; every time the teacher walked over to the window side of the room while teaching, several of the students smiled; as he walked away from the window, they stopped smiling. After a few days, the teacher taught the complete lesson from the window side of the room; then they told him what they had done.

Some of your unconsidered behaviors may influence the students without your conscious knowledge. To be effective, you must consider the effect of all of your behavior. On the first day of class meetings the students should be given all of the specifics of your course. The class handout should contain all of the information that a student needs to be fully aware of the actions necessary in order to obtain a desired grade in your course The example provided below should provide a working model of the ideas discussed but it certainly needs to be tailored to individual situations.

SUNY College of Technology at Farmingdale

PROF. EXEL EDUCATOR ACADEMIC DEPARTMENT COURSE XYZ 123

The outline for this course should make you aware of the great amount of content we will deal with during this semester. I will bring in topics complementary to the text to give you more of an understanding of this field of study, to help you to understand how a professional thinks and feels about the material we will discuss. It is your responsibility to remain current with the assigned reading.

Homework: Many students have said that this is a great course because there is not much homework. This is not accurate! It is YOUR responsibility to do all of the reading outlined for this course. If you allow yourself at least two hours for every course hour (six hours of study each week) you will probably have the time to complete all of your homework. Anything less than that amount and you will be cheating yourself, not your professor. I have prepared a sheet on the SQ3R method of study. If you learn and use this study technique, you will do well in every one of your courses.

Exams: five unit multiple choice exams which must be taken when scheduled. Almost all of the test questions will be contained in the assigned reading. However, you will NOT be able to earn good grades on the exams without careful study. You cannot merely skim the text and know the content; it will take several readings to understand all this material.

Missed Exams: If you miss any one exam, you must take a comprehensive final. This is the one and only make-up possible. If you miss more than one exam, zeros will be averaged in for any more than the first.

Daily Log: In addition, there is a required daily log. The log will consist of an article appropriate for each class session from the daily or Sunday newspaper and your comments or critique, not a resumé, of each article you have chosen. The log must also be written on a computer word processor. The log is to be handed in before each exam; that portion of the log will not be accepted if it is late. The total log will count as one test grade.

Grading: Your final class grade will consist of 75% of your exam average plus up to 25% for class participation. Your exam grades will be summed up, the daily log grade will be added, the sum will be divided by six and then multiplied by 75 to obtain that portion of your grade.

The 25% participation part of your grade will be determined as follows:

Attendance counts as part of class participation; you gain .5 points for each class you attend for a grand total of 14 attendance points toward your final grade. However, if you miss more than five class sessions, you will have missed more than 20% of the class lecture and discussion; this much absence will cause the attendance portion of your participation to disappear entirely. There are no excused absences for athletic events, medical exams, etc. Your presence in class will do more than merely help you to earn a good grade; it provides an opportunity to enjoy the course as well as the companionship of your classmates, an important part of the college experience.

Lateness also counts; 3 lates equal one absence. Any time you are late, it is your responsibility to make certain that you have been marked present for that session before you leave the room.

Participation: Your in-class behavior will account for the remaining points. There are no optional papers or extra credit work; you must earn good grades on the exams, attend class and be involved in the class work. All papers that you hand in must be typed on a computer word processor and look like the kind of work you would not be ashamed to hand in to your boss when you are asking for a raise in salary. Messy, unprofessional papers will not be read. Begin now to behave like an educated professional .

Special needs for a specific class session should be discussed with me before that class begins. Do not take it on yourself to leave class early without first discussing it with me; such behavior will be treated as an absence or a lateness, depending on how early you exit the class. Doctor appointments should be made at a time that does not interfere with your education!

Consultation: I encourage you to talk with me at any time about academic or other problems. I will be available to you before or after class as time permits or by appointment in my office in Academic Hall, room 600. My phone numbers are: 420-2000 or 420-2725.

Student Data: Please give me a student information (index) card containing your name, S.S. number, address, phone number, curriculum, so that I can be in touch with you if the need should arise. In addition, tell me something special about yourself as well as any problems I should know about.

Computer Activities for Introductory Psychology: Design Considerations

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Abstract

Computer-based activities are increasingly popular adjuncts to introductory psychology courses. This paper discusses some design considerations that need to be taken into account in writing software for use in the introductory psychology course.

Computer Activities for Introductory Psychology: Design Considerations

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Computer-based activities are becoming increasingly popular adjuncts to introductory psychology courses. Demands for computerized activities in the undergraduate curriculum reflect a variety of pressures: institutions are anxious to provide the very latest in educational technology, instructors are seeking ways to increase student interest, and students have become accustomed to educational software in high school. Several computer applications in advanced psychology courses have been reported (e.g., Balsam, Fifer, Sacks, & Silver, 1984; Vom Saal, 1984); this paper addresses issues specific to the introductory level class.

Three general issues must be considered in designing software for introductory psychology courses: (a) content, to ensure that the activities are appropriate for course requirements, (b) human engineering, to ensure that the programs are usable by novice undergraduates, and (c) "system," to ensure that the software can be readily integrated into academic settings.

I. Content Considerations

Appropriateness of Content. Software for introductory psychology has generally taken one of two forms: study aids or activities such as experiments, demonstrations and simulations. (The detailed taxonomy presented by Castellan [1983] is more appropriate for software designed for more advanced courses.) Computerized study guides were among the earliest commercial applications, perhaps as a natural development following the introduction of computerized test banks by textbook publishers. The initial motivational value of such computerized study guides (which often provide cute graphics or sound effects when a multiple-choice question is answered correctly) is likely to be short-lived. Why should students prefer an expensive and fragile set of diskettes requiring a trip to the computer lab over a cheap, indestructible, usable-anywhere-anytime printed study guide? Although there may be exceptions, it seems wiser to use printed study guides for drill and practice, and to reserve computer activities for those simulations, experiments, and demonstrations that cannot otherwise be easily managed.

Paper-and-pencil tests can be presented in a computerized format. For example, an interesting exercise in assessment and statistics might involve correlating the scores of a brief intelligence test and a test of creativity. But even in such a case, the computer presentation has few advantages over the traditional format.

Even with other forms of demonstrations and experiments, it is fair to ask whether the material can be presented equally effectively in a textbook. Why is a Muller-Lyer illusion better on a computer monitor than on a printed page? All else being equal, activities than can be presented on a page should be; the computer should be reserved for interactive material that cannot be presented in other ways.

What kinds of experiments are appropriate for computer presentation? We hae had students adjust the length of a verticval line in a horizontal-vertical illusiom, both with and without feedback; students can empirically answer the question of whether feedback improves accuracy, and whether the improvement remains after feedback is discontinued. A simple computerized experiment can also be used to demonstrate the effects of chunking on memory span, by comparing the number of letters recalled when stimuli are presented as single letters versus 3-letter words. Yet another effective experiment is to have students read a crime scenario and to use the computer to present a word association task as a "guilt detection" procedure (with the data in the form of reaction times to crime-related versus neutral words).

Some social psychological experiments can be readily presented for individual users in a computerized format. For example, students playing a prisoner's dilemma game against computer opponents who adapt varying strategies can understand far more about such social interactions than students who merely read about prisoner's dilemma interactions. Such complex phenomena as prejudice and segregation can be dramatically modelled; we have adapted a simulation described by Schelling (1971) to show how easily an integrated community populated by racial moderates can degenerate into a segregated community.

In other instances, simulations can be presented as challenging games, and be effecgive in developing skills. For example, can a student use use shaping to gradually increase the force of a computerized rat's bar-press? Can a student use goal-setting to get a computerized client to to spend more time studying? (Except for the graphics and the task descriptions, the underlying computer programs are quite similar; that too can be instructive, for both the programmer and the user.) Minor parameter changes can generate several levels of difficulty for successful shaping, and the challenge of increasingly difficult criteria for success bring some students back to the game repeatedly.

All of these successful implementations share several common characteristics. Each can be presented in the context of an interesting questions about behavior than can be answered by carrying out an experiment or simulation. Will feedback-induced improvements on the horizontal-vertical illusion be maintained when feedback is no longer available? Can chunking imprŏve memory? How can you test the efficacy of lie detection? The activities are simply and readily understood by users, and can be completed relatively quickly. The questions can be answered on the basis of the student's own individual data; group averages are optional.

User Involvement. A simulation, no matter how elegant, that asks the student to enter one or a series of parameter values and then proceeds to go through its paces with the student as passive observer, will turn out to be a waste of time for most students at the introductory level.

For example, it is possible to teach some characteristics of prisoner's dilemma games by having students passively watch a computerized simulation of several strategies; it is not immediately clear how much students learn from watching the computer go through its paces. A far more effective format is to have the student play against the computer (which can adopt one of several strategies), and to require the students to "succeed" (i.e., maximize earinings) against each simulated opponent. The advice here is simple: Write programs in which the progression of events depends on frequent user input, thus forcing the student to take an active part in what is happening. The more interactive, the better.

Focus. Do not try to teach too much in a single program. Remember that most students are asked to learn at least three things simultaneously: (a) operating a particular type of computer, including keyboard layouts and special funtion keys, (b) using the software package, inclusing menu structure and standard commands, and (c) mastering the substantive lesson that the esercize was written to convey. This is very different from computer applications in other areas, such as business. For example,
a secretary who is learning to ued a new word-processing package presumably already knows how to type a business letter. If you want the student to come away from the computer having learned something about psychology, write sharply-focused programs.

II. Human Engineering Considerations

Professional programmers and computer scientists are showing greater awareness of human engineering, particularly for complex software such as that used in artificial intelligence applications or for database management. Both specific experimental analyses and general guidelines are available to help make such software systems user-friendly (e.g., Monk, 1984; Salvendy, 1984). The user-friendliness requirements for software to be used in conjunction with introductory psychology courses, however, may differ substantially from the well-recognized requirements for other programs. These differences are a product of the characteristics of the typical user and of the conditions under which the software is ordinarily used.

Specifically, unlike the user of more elaboratesoftware packages, the introductory psychology student (a) may never have used a computer of any kind before, (b) is likely to use a particular program only once of twice, (c) may be unwilling or unable to devote extensive time to learning to use software, and (d) probably has only brief and intermittent access to a computer. Careful software design is especially important if the students are to use the software without direct supervision by the instructor; otherwise, the instructor will be besieged by students whose programs have crashed or who have failed to understand details of the instructions.

Ease of Use. If students with little or no previous experience with computers are to use the software feffectively without extensive "handholding," sensitive programming will be required. Obscure commands must be avoided; complex sequences of keystrokes are deadly. Because a particular computer activity will usually be done only once, the student may never gain much experience with any particular program and must be considered a perpetual novice. Because the individual programs that make up the software package may be done weeks apart over the course of a semester, it cannot be assumed that students will remember even mnemonically-cued commands (e.g., pressing Q to quit a program gracefully or pressing the back-arrow to display the previous menu). In the ideal program, the only necessary off-disk instructions would specify (a) where to insert the disk, and (b) where the on-off switch is located. Everything else should happen automatically or be cued by explicit screen commands (e.g., "Do you want to see the data again? Type Y for Yes or N for No").

Use of the Keyboard. Special problems are posed by keyboard designs that violate almost every principle of human engineering. For example, the Return key on IBM and IBM-compatible computers is sometimes marked Return, sometimes labeled Enter, and sometimes identified by a hooked arrow; a novice faced with the instruction "Press Return to Continue" may be stymied. Many keyboards are blessed with several arrows (as many as fourteen), so that "Press the arrow keys to move" is more puzzling than instructive. Some programs require upper-case entries, although keyboards often lack clearly labeled shift and shift-lock keys; a student fruitlessly typing "y" when the computer expects "Y" may give up in disgust. All of these problems may be avoided by programming that uses the Space Bar instead of the Return key, relies only on familiar or unambiguously labeled keys, and treats upper-case and lower-case letters as equivalent.

Error-trapping. What does the program do when the user makes an error? The crpytics message "SYNTAX ERROR" of "OUT OF RANGE" produce only bewilderment. Effective software design dictates that error messages should describe the appropriate user response, and not just indicate than an error has been detected. If a number between 1 and 100 is to be entered, entries outside of that range should produce a reminder of the correct input range (e.g., "The number you type should be between 1 and 100"). If "Y" or "N" is called for in response to a "yes-no" question, other entries should produce a "Please type Y or N" diagnostic message.

Format. Some standards suggested for database management and word-processing programs (e. g. the superiority of 80 characters per line over 40 characters per line) are based on criteria (e.g. reading speed) only marginally relevant for interactive software for introductory psychology. Other standards remain relevant; for example, students generally find lower-case text more readable than text presented entirely in upper-case letters. Most software provides a blinking cursor indicating where on the screen user entries will appear; although this is useful in a word-processing application, it may be unnecessary and distracting in some interactive exercizes.

Use of graphics. Graphics are often attractive, and are indespensible for some purposes. In many cases, however, graphics contributes very little to the pedagogical value or effecitveness of the software. What appears "cute" in the early trials of an iterative exercize quickly becomes boring, annoying, or distracting. Grpahics often make programs run slowly, and they are likely to use large amounts of computer memory and disk space. A good general rule is to avoid unnecessary elaborate graphics. Particularly annoying are long series of slow-moving introductory screens (typically title pages, displays of logos, etc.) that appear when the disk is booted; these are an unnecessary waste of the student's time.

Field Testing. It is possible to develop software that appears foolproof, to the extent that thousands of students can complete activities on their own without difficulty, and with an easily read manual describing little more than how to insert the disk and turn on the computer. But such program development takes time; students are ingenious in finding ambiguities that program authors fail to notice. There is no substitute for careful pretesting.

III. System Considerations

Time Required. Two factors limit how long the student should have to spend on an activity. The first constraint is student patience and interest; remember that introductory psychology students are already likely to consider themselves overworked. The second is that most students will not own their own computers and will have to share machines in libraries, computer centers, or other campus facilities. Thus, the 2-hr computer-managed experiment that might be excellent for upper-level courses may simply be too long for the introductory course. Our own rule of thumb has been that students should be able to complete an activity in about 20 min.

Record Keeping. One way to ensure that students use the software is to assign course credit fpr the completion of computer activities. While this can be managed in several ways, the simplest is to integrate record-keeping into the software. We have accomplished this by using an identification program that is called only the first time the disk is used; the user must enter his or her name and social security number, which is then stored on the disk. When data from an activity are printed out, the student's name appears in the heading. The computer updates a "progress file" (recorded on the disk) whenever an activity is completed. The student can then print a report showing his or her name and a list of completed activities; these reports can be readily included as part of course requirements.

Many psychologists have developed programming skills to support their research activities; those same skills can be applied to designing software for classroom use. Among the more gratifying results we have seen are dramatic expressions of appreciation in course evaluations, and excited students talking about psychology -- not about quizzes or exams, but about psychology -- outside of class.

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Evaluation of "Main Effects and Interactions" Software in a Research Methods Course as a Function of Computer Attitudes

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Running head: COMPUTER ATTITUDES

Evaluation of "Main Effects and Interactions" Software in a Research Methods Course as a Function of Computer Attitudes

Computer usage for statistical analysis is an integral part of research methods courses at State University College at Buffalo. However, computer-assisted instruction has not hitherto been used to facilitate understanding of other aspects of the research process. Recently, software designed to illustrate main effects and interactions (topics which my research methods students find relatively difficult) has become available. The first purpose of the present study was to examine students' evaluations of this software program.

Relatively little research has examined students' evaluations of software itself, particularly in relationship to attitudes and course grades. For example, Oates (1981) performed such an evaluation for English grammar computer assisted instruction. Computer-assisted instruction was shown to improve performance on a standardized test of English, and student attitudes toward the software program were highly favorable. Smith (1985) compared graphic and nongraphic software instructional applications to teach punctuation and found no differences in performance. Smith and Keep (1986) interviewed middle school children about the criteria they used to evaluate educational software; learning experiences and learning outcomes were among the top eight categories mentioned.

Computer anxiety

There was a possibility in the present study that computer assisted instruction might not be equally valuable for all students. Those suffering from computer anxiety might benefit less from the software, and indeed, their grades might suffer from the emphasis placed upon the computer as a tool for statistical analysis. Gressard and Loyd (1986), for example, found that computer anxiety in college students was moderately associated with math anxiety and poorer performance. There is evidence that prior computer experience moderates computer anxiety (e.g., Arndt, Clevenger & Meiskey, 1985).

Sex differences

There is also evidence that females are more computer anxious than males. Gilroy and Desai (1986) found that women were more often represented in high anxiety groups than men, a result consistent with findings of Morrow, Prell and McElroy (1986).

Wilder, Mackie and Cooper (1985) found in a sample of college freshmen that females, compared to males, objectively had similar previous experience with computers, both in exposure at home and in quantity of courses taken. However, males were more likely to have taken a programming rather than a general course. With regard to attitudes, females reported feeling significantly less comfortable than males. They also felt far less well-equipped to deal with computers, even though their experience was not significantly different. In fact, Wilder et al. (1985) found that experienced females reported themselves to be less comfortable and no more skilled than inexperienced males.

Miura (1987) found that men rated themselves higher than women on perceived self-efficacy with computers. This difference may be part of a general tendency for women to rate their competence lower than that of men (e.g., Tedeschi, Lindskold & Rosenfeld, 1985).

These sex differences in computer anxiety, self-efficacy, and/or attitudes may have an impact on behavior. For example, Braun, Goupil, Giroux, and Chagnon (1987) reported that adolescent girls were considerably less likely than boys to use the computer on their own time, although they were significantly more likely to enjoy compulsory computer activities.

The present study was aimed at detecting whether computer attitude or anxiety would be related to students' grades or their evaluations of the software program.

Method

Subjects

Subjects were 31 female and 11 male students enrolled in four sections of a research methods course; two sections were taught each semester. They participated in the study as part of course requirements. The same female professor taught all four sections.

Materials

The software used was "Topics in Research Methods: Main Effects and Interactions" (Fazio & Backler, 1987). The evaluation questionnaire contained 7-point semantic differential-type items assessing "Computers" and "Myself Using Computers" (adapted from scales used by O'Quin, Kinsey, & Beery, 1987). Additional Likert and semantic differential-type items measured prior computer experience, and perceptions of the software. The entire questionnaire is available from the author.

Procedure

In the latter half of the semester, the course instructor announced a requirement that students use the "Main Effects and Interactions" software as an aid to preparing for the final exam. Students visited the campus Academic Skills Center, where they received instructions from a female staff member on using the computer and program. The computer session lasted approximately 45 minutes. Each student also received a comprehensive handout entitled "Student Notes" so he or she did not have to take notes during the session. Students completed the questionnaire immediately after the session. The questionnaires were collected at the Academic Skills Center, and returned to the course instructor (who was thus blind to computer attitude) at semester's end.

Results

Variables

Factor analysis (principal components, varimax rotation) and reliability analysis were used to reduce the number of variables. Three scales were derived from the "Computers" items and measured different facets of computer attitude. These scales were general computer attitude, computer friendliness, and computer understandability. For "Myself Using Computers," two subscales were obtained: positive self-evaluation, and lack of nervousness. Items included in these subscales are presented in Table 1. For all subscales, a score was derived by first recoding items so that high numbers indicated more positive attitudes, greater friendliness, understandability, and increased nervousness, then averaging across the items in the subscale.

For evaluations of the software program, two subscales were obtained. The first measured the software program's contribution to learning (a = .90). and contained 6 items measuring student's perceptions of how much they had learned, how much the program would help them get a better grade on the final exam, how much the program helped them achieve their course goals, etc. The second subscale measured general software evaluation (a = .79). It contained 5 items, including the extent to which the program held their attention, was interesting, was useful, etc. Items were recoded if necessary so that high numbers were positive, then were averaged to yield a subscale score.

Additional variables were the weighted average of the 5 papers and 2 exams required in the course (in percent), sex of subject (coded 1 = male and 2 = female), and prior computer experience, measured on a 6-point scale from "none at all" to "a great deal."

Analyses

Computer attitudes. Intercorrelations among the variables are presented in Table 2. Two of the computer attitude variables in the present study, friendliness and understandability, were highly correlated with each other, and showed similar patterns of correlation with the other variables; thus they will be discussed together. Students who thought the computer was friendly and understandable had a positive general computer attitude, positive self-evaluations, reduced nervousness, and greater previous experience with computers. However, they did not report more positive evaluations of the software program or greater learning from the program, and showed no significant differences in class grade.

The general computer attitude variable showed a somewhat different pattern of results. It was not related to self-evaluation, and was positively related to evaluation of the software, although it was not related to the perception that the software contributed to learning. Positive general computer attitude was related to decreased nervousness and increased amounts of previous experience.

Nervousness about the computer was related only to other computer-related variables and to previous experience.

Evaluations of software. The two software evaluation variables were, of course, significantly related to each other. Except for that, each was significantly related to only one other variable. Software's contribution to learning was positively related to amount of previous experience, and the general software evaluation variable was positively related to general computer evaluation.

Sex differences. Sex differences were striking by their absence in the present study. The only significant correlate of sex was amount of previous experience. Women reported more previous experience, which is unusual.

Previous experience. Amount of previous experience was the only significant correlate of grade, although not in the direction one would predict: those with more previous experience got lower grades. Previous experience was an important correlate of attitude, self-evaluation, and nervousness.

Multiple regressions. Hierarchical multiple regression (Cohen & Cohen, 1975) was used. Predictors were entered in the following order: sex on Step 1, previous experience on Step 2, and the five "Computer" and "Myself Using Computers" variables on Step 3. T-tests were used to test the significance of each predictor in the final equation.

When software evaluation was used as the dependent variable, three predictors were significant: sex (beta = .49, $p < .01$), previous experience (beta = -.48, $p < .05$), and general computer attitude (beta = .59, $p < .001$). Finding the first two variables to be significant is a little surprising, because neither was a significant predictor in the simple correlations. Women rated the software more positively.

When software's contribution to learning was used as the depenndent variable, two predictors were significant: nervousness (beta = .65, $p < .01$), and general computer attitude (beta = .43, $p < .02$). Previous experience, which had a significant simple correlation, was not a significant predictor.

When grade (in percent) was used as the dependent variable, none of the predictors was significant after Step 3; previous experience was the only variable to approach significance ($p < .07$).

Discussion

Subjects who thought the computer was understandable and friendly reported higher self-evaluations, were less nervous, and reported greater computer experience. In terms of general computer attitude, subjects with positive attitudes were less nervous and evaluated the software program less negatively. There were no significant differences due to computer attitude in the contribution of the software program to learning. Previous experience with computers was an important correlate of computer attitude, nervousness, and self-evaluation. These results are generally consistent with those of Arndt et al. (1985), who found that prior computer experience moderated computer anxiety.

Unlike previous studies (e.g., Miura, 1987), sex was not related to self-evaluation. There were also no sex differences in computer attitude, which is inconsistent with several previous studies (e.g., Rosen, Sears, & Weil, 1987). One possible reason for this inconsistency is that, also unlike most previous studies, females in the present study reported more computer experience than males. A second possible reason for the inconsistency is that the course instructor was a female who was well-known for her computer expertise. She tended to emphasize the importance of the computer as a tool in other aspects of the course. In addition, the administrator of the software program was female. Such factors may have an impact on computer attitudes, and might be investigated in future research.

The present study found no sex differences in nervousness about using computers. A few previous studies have found no sex differences in computer anxiety. For example, Campbell and Dobson (1987), in a sample of 4th-8th grade students, found no sex differences; both researchers were female, and classroom instructors (presumably largely female) administered the anxiety instrument.

A third possible reason for the lack of sex differences might be that computer use in the course was mandatory. As Braun et al. (1987) found, girls were more likely than boys to enjoy compulsory computer activities. A fourth possible explanation is that the task was relatively sex-neutral. Eastman and Krendl (1987), with a sample of 8th graders, found no sex differences in computer attitudes or computer performance using a library-type task (on-line search of video text). However, it is also interesting to note that both Eastman and Krendl are female.

In conclusion, the present results indicate that the software program was not equally effective for all students, but sex was a less important determinant of perceptions than previous research suggests. However, prior computer experience was an important determinant of perceptions, and should be considered by instructors who use the computer as a tool in their courses.

Table 1

Coefficient Alphas and Item Content for General Computer Attitude Nervousness, and Self-Evaluation Subscales

Subscale	Coefficient Alpha
General Computer Attitude: "Computers"	.77
*Positive - Negative	
*Useful - Useless	
Foolish - Wise	
*Sharp - Dull	
*Good - Bad	
Friendliness: "Computers"	.90
Threatening - Non-threatening	
Menacing - Non-menacing	
Frightening - Friendly	
Intimidating - Non-intimidating	
Understandability: "Computers"	.82
Baffling - Comprehensible	
*Clear - Confusing	
Obscure - Meaningful	
Mysterious - Understandable	
Self Evaluation: "Myself Using Computers"	.95
Ignorant - Knowledgeable	
Slow - Quick	
*Sharp - Dull	
Foolish - Wise	
Bad - Good	
Weak - Strong	
*Successful - Unsuccessful	
Nervousness: "Myself Using Computers"	.94
Restful - Nervous	
Calm - Anxious	
Relaxed - Tense	
*Afraid - Unafraid	
*Upset - Quiet	
Undisturbed - Disturbed	

Note. Items marked with an asterisk were recoded.

Table 3

Intercorrelations of Computer Attitudes, Software Evaluation and Grade

Variables	1	2	3	4	5
1. Computer friendliness	-				
2. Understandability	.80**	-			
3. General computer attitude	.44**	.43**	-		
4. Self evaluation	.55**	.59**	.26	-	
5. Nervousness	-.62**	-.56**	-.42**	-.71**	-
6. Software's contribution to learning	.01	.03	.28	.07	.18
7. Software evaluation	.17	.17	.46**	-.05	-.04
8. Grade (percent)	-.21	-.17	-.17	-.20	.07
9. Sex (1 = M, 2 = F)	.13	-.04	.07	.20	-.20
10. Previous experience	.46**	.45**	.33*	.62**	-.31*

Variables	6	7	8	9	10
6. Software's contribution to learning	-				
7. Software evaluation	-.51**	-			
8. Grade (percent)	-.30	-.05	-		
9. Sex (1 = M, 2 = F)	.27	.30	-.15	-	
10. Previous experience	.33*	-.05	-.43**	.32*	-

Note. * _p_ < .05. ** _p_ < .01.

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Male and Female Students Special Needs: Summary of Internal and External Data on Student Attrition

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Introduction

This paper is a summary of a year long inquiry into the status of male and female students at Marist College.

In most colleges, there seems to be three major areas of concern focusing on women students. First, it appears that colleges have more difficulty attracting as many academically strong women students as they do academically strong male students. The second major area of concern is that high ability female students are often found to drop out of college at a disproportionately high rate. Women are much more likely to go to exit interviews and that high functioning women are more likely to complain about services provided to them. Naturally, we tend to remember and grieve over the loss of a particularly able student. I further believe that we disproportionately remember those more able students who leave and are inclined to forget the less able students. Third, administrators are particularly becoming concerned about the status of commuter women students.

In order to better understand these concerns, I did an extensive review of published literature. I also conducted informal interviews with students, faculty, staff, and administrators at Marist College. I also reviewed Marist institutional research data which has been collected on student attrition rates.

The published research data is vast, although very little of it specifically addresses male versus female student needs. This may be because male and female student needs are often very similar. Perhaps, when colleges do not meet student's needs as well as they should, it impacts the more dependent and more affiliation oriented female student more adversely than it does male students.

Recently, the Marist community has begun to more actively talk with each other about our students' needs. The faculty retreats and the Strategic Planning Committee are two specific examples of this new trend. Unfortunately, I found it particularly discouraging to learn the Student Life Subcommittee, of the Strategic Planning Committee, chose to focus nearly exclusively on resident students. Published research indicates that commuter students have special needs.

External Attrition Research

Before I continue this paper by providing a brief review of some of the most relevant published research studies, let me summarize and outline some typical myths held about student retention (Tinto 1987).

1. Lowering attrition rates does not mean lowering standards of academic performance. In fact, higher attrition actually occurs when grade inflation occurs.

2. Dropouts are not generally flunk-outs. Often the G.P.A.'s of students who leave are higher than those who stay.

3. Dropping out is generally not a financial issue. Financial concerns limit admission and choices.

4. Students drop out when they perceive that the "costs" are heavy and when they do not perceive that they are receiving enough benefits.

In general, researchers describe the typical dropout compared to non-dropouts as having (1) lower education aspirations (Astin; 1975 Cope & Hannah; 1975, McMillian & Kester; 1973 and Tinto; 1975) (2) made a later decision to enter a particular college (Lenning, Beal & Sauer; 1980) (3) less encouragement from their parents to go to college and that their parents are less well educated (Lenning et al; 1980, McMillian & Kester (1973); and (4) placed less importance on receiving a college degree (McMillian and Kester; 1980).

Possibly, our goal should not be to decrease attrition, but to provide the best education for our students that we can. We cannot keep all students who originally register.
For some, dissatisfaction would be present at any school and with any set of educational services. For others, their college choice was an error and they should transfer. We cannot do everything well; we cannot provide an environment that is maximally attractive to all kinds of students. For still others, they would not have dropped out if there were more complete educational services and if they would have accurately perceived the long-range benefits of college.

Attrition Rates

When trying to outline the findings on attrition one can become dismayed at the citing of data regarding attrition rates. The numbers seem to vary substantially from one study to another. This, in part, comes about because there are three major ways to measure retention, as described by Astin, Karn, and Green (1987).

(1) Did the student receive a bachelors degree in four years? (This is the most stringent and perhaps unrealistic definition, because it considers any student who takes more than four years to complete their degree a drop out.)

(2) Did the student receive a degree or complete four years of college? (This definition prevents students who are slightly behind in credits for graduation from being considered dropouts.)

(3) Is the student enrolled in the same college four years later? (This definition allows students who drop out, leave for a time, but return to the same institution to not be considered a dropout.)

When data from all four year institutions is collected, only 32% of all students complete their degree in four years. Women are more likely than men to complete their degrees in four years. Men are actually more likely to be defined as persisters, using definition number 3 (men=53%; women 51%). Also, a student entering a private institution is more than twice as likely, as one entering a public institution, to complete an undergraduate degree within four years. If definition three is used to define retention, the distinction between retention rates of public and private institutions diminishes.

Noel reports between 26-29% attrition rate for Freshmen before the sophomore year, in private non-sectarian schools. The greatest attrition occurs during the freshman year. Almost three quarters of the students completing their sophomore year without interruption will complete all four years without interruption.

Student Characteristics

Students who leave private institutions before graduating are more likely than the dropouts from public institutions to say they wanted to change to a college with a better social life, a college with a wider variety of courses, or a college with a better academic reputation. Drop-outs from private institutions are much more likely to say they are leaving college for academic reasons. Low ability males are three times more likely to drop out than low ability females (McMillian & Kester, 1978). Astin's (1975) data further indicates that many students who enter into private institutions, actually pre-plan to transfer. Most colleges will need to make some tough decisions about how actively they will continue to recruit students, who really "hesitate" to come to their institutions. Our retention rates will not improve if we continue recruiting great numbers of students who really don't plan to stay, unless we are able to find ways to encourage them to change their minds. Retention also depends on the types of students recruited. High school G.P.A. and admission test scores are the best predictors for retention. The higher the two indices, the lower drop-out rates one would expect to experience. It is only logical to assume that, if a college admits students with low high school G.P.A.'s and admissions scores, we will continue to battle with a high drop-out rate. The bottom line is that the more selective the institution is, the less attrition that institution will have.

Effect of Student Involvement

Turnbull (1986) stated, "Anything that increases student involvement or student commitment also increases retention." He goes on to argue that "most problems put forward by students who have left college as their reasons for dropping-out are reasonably common among students who are still there plugging away." He further distinguishes between students who are academically talented and those who are committed to their college. He found persisters to be both talented and committed. Students with solid academic abilities, but low commitment tend to withdraw and are likely to transfer or re-enroll later on in the same school.

Students with poor academic records but moderately high commitment tend to persist in college until they are forced out (academic dismissal). Students who are low in commitment and moderately low on academic competency tend to withdraw and discontinue schooling. Anecdotally, I have observed that only one student who actively participated in the Marist Psychology Club during my five years at Marist has withdrawn from Marist. The membership is generally 20-30 persons and primarily female. The leadership of the club generally comes from the students with a good to very good academic ranking, while many of the club members are relatively weak academically.

Turnbull goes on to discuss that many students mention boredom as a reason they drop-out. Boredom appears to be highly related to lack of commitment and/or dissatisfaction with requirements. He further acknowledges that it is difficult for students to stay committed to school when they are getting discouraging,low grades. He reports that highly committed students: (1) devote considerable energy to studies; (2) working on, rather than off campus; (3) participate in student organizations; and (4) interact frequently with faculty and peers. He found uninvolved students to be characterized as those who: (1) neglect studies; (2) spend little time on campus (colleges might find its most predictive measure of drop-out rates might be number of days within the semester away from campus); (3) little contact with faculty and other students and (4) participate little in institution life.

Crockett and Levitz (1984) also address the need for institutions to more actively recognize the importance of advisement and interaction with students by faculty. They argue that, "The student who drops out is the student who does not get involved and is allowed somehow to slide through the first semester without identifying intellectually or emotionally with significant elements of the college and its people."

Personal factors in attrition

Anderson (1985) distinguishes between internal and external forces on students withdrawal rates. He cites negative external forces which can force a student out as:

- Lack of money to meet educational, living, and personal expenses
- Housing problems that make it impossible for students to find convenient and affordable housing
- Roommate problems
- Transportation problems
- Work demand
- Social demands
- Rejection by family and friends who do not value a college education

- Discrimination. "certain majors cater more to one gender than another"
- Family obligations

and internal self-defeating forces as:

- Procrastination and self-management problems
- Loneliness
- Inability to assert needs and seek help for problems
- Self-doubt
- Fear of failure
- Fear of success
- Fear of rejection
- Values conflict "what's the purpose of L.A. education"
- Career indecision
- Boredom

Anderson believes that effective ways to help promote persistence include:

1. Individuals who take personal interest in students
    - help clarify purpose for attending college and anticipate outcomes of college experience
    - affirming students as persons in terms of potential, abilities, skills, gifts, talents, worth, and uniqueness
    - helping students deal with problems of self-defeat and sources of anxiety

2. Sufficient financial support

3. Assessment and referral procedures--stimulate student use of appropriate campus resources.

4. Orientation activities

5. Counseling services

Women appear to need more frequent social contacts with faculty. Men need quality and frequent academic contacts with faculty (Pascarella and Terenzin; 1976). Many colleges desperately need to reassess its provisions for such contact by asking, "Do divisional areas, faciulty offices, and surrounding space encourage both social and academic interactions between faculty and students?"

Crockett (1985) has reported that a caring attitude on both the part of faculty and staff is the single most potent retention agent on campus. He argues that students need ample opportunity for a significant one-to-one relationship between faculty/staff and other students.

When studying attrition rates, it is important to make a distinction between voluntary and non-voluntary (academic or disciplinary dismissal) withdrawal. Tinto (1975) reported that voluntary (85% of all dropouts) withdrawals generally show both higher grade performance and higher levels of intellectual development than do the average persisters. This seems to suggest that colleges and universities may be unwilling or unable to meet the needs of the most academically able and creative students. Participating in honors programs is uniformly associated with improved changes of college completion.

In general, it has been found that living in dormitories rather than off campus increases persistence and living on campus is associated with students being more committed, more involved in campus life. Although dormitory living seems preferable regardless of the type of institution, living in a private room or apartment, rather than with parents, is beneficial to men, but detrimental to women. This supports the building of more on-campus dormitories.

Gender Differences in Attrition

Various researchers have cited specific needs of women students. Smith (1976) reported that those who withdraw, compared to those who persist, are more complex and autonomous, more risk takers, more impulsive, more separated from parent, higher birth order, higher SAT verbal, and overall greater indicator for dropping out for women and men and that institutional commitment is influenced by institutional quality and opportunity to transfer for men and membership in campus organizations for women. Women, in general, were also less likely to feel education to be important for later employment and those who felt this way were more likely to drop out. Women who report being satisfied with their school do not leave, whereas men are more likely to leave even when they report being satisfied. Bean recommended that: (1) women should be more actively encouraged to join campus organizations; (2) during the recruitment and orientation phases, women need to have an emphasis placed on how the education will be very helpful for their future employment prospects; and (3) women in particular, need an active and effective placement program. Feltz and Weiss (1984) found that women who participate in sports are more likely to remain in school.

Turnbull like many others (e.g., Bean & Creswell; 1989) has found that men report boredom with courses, financial difficulties, poor grades, and dissatisfaction with requirements or regulations as the major reasons for withdrawal. Women are most likely to report marriage, pregnancy, and other family responsibilities along with financial problems and boredom as their major reasons for withdrawal. Women are three times more likely to state marriage as the reason for dropping out (Cope & Hannah; 1975, Pantages Creedon & Astin; 1975).

Full-time employment also has more of a negative impact on women than men. Men tend to be able to acquire jobs that interfere less with classes. Women who work part-time on campus seem more likely to persist.

Walters & Marcus (1985) argue for the importance of faculty involvement to combat against attrition:

> "In pointing to the centrality of the role of the faculty, we do not mean to downplay the necessity for strong supportive services, for we cannot imagine a successful program that does not offer adequate counseling and tutoring programs. But, if these programs as well as the remedial curriculum are planned and overseen by the regular college faculty, they are more likely to be directed toward moving the students into the institution's educational mainstream. Further, when the regular faculty have a direct interest in the success of the program and its students, they can be very powerful advocates for the program with their colleagues and can serve as an anchor for the students .... In many institutions, when tenure-review time comes around it turns out that faculty involvement with students is not rewarded as much as other things like scholarly publication. Teaching loads are not reduced to allow for greater student contact; so faculty often give up not only their career advancement but family time as well to pursue, alone, what ought to be a high institutional priority. Only the administration can do something about that; their involvement is a 'sine qua non.'"

Rosser (1989) discusses the need to avoid sexist language and behaviors in the college classroom. Male students are found to dominate classroom discussion and to interrupt female students. Professors are found to have more eye contact with men and more gestures towards men. They also tend to wait longer for males to answer a question before going on to another student. McDade (1988) reports that women claim they are discriminated against in traditionally male career classes and do not feel that professors take them seriously or see them as competent. Astin (1977) reported that women college students experience a decrease in self esteem and a decline in academic and career aspirations during their college years. These findings are readily understood if one believes the college classroom is a "chilly one" for college women. Further indication of this "chilly climate" may be reflected in the findings that female students are more likely to depart voluntarily; where no male students are more likely to be forced to leave for academic reasons. Additionally, the press for occupational attainment remains stronger for males than females.

Commuter Attrition

There have also been studies conducted which address the special needs of commuter students. Stewart, Memill & Saluri (1985) stated that "commuting students are more likely than residential students to be trying out college." They go on to argue it is very easy for a commuter student to drop out, compared to a residential student who much more actively has to pack up before they can leave. Eighty percent of the undergraduates nationally are commuters and institutions that wish to improve their retention rates may be well advised to take a serious look at the needs of commuter students. Commuters in general are found to have lower institutional commitment, which includes low group identity and limited affiliation with other students. Wilson, Anderson, and Fleming (1987) report that commuter students demonstrate poorer personal adjustment and over-involvement in their parental relationships than did students in residential halls. Commuting freshmen and commuting women report the greatest over-involvement with parents. Resident students appear to experience more rapid personal development in their freshmen year than commuters. Commuters in general are found to need greater autonomy and are less trusting. Those students who live at home are found to have lower maturity levels, to be insecure, to have lower self-esteem, to have fewer realistic goals, and to have fewer satisfying relationships. Commuter students tend to be more involved in work off-campus. Work off-campus is associated with higher attrition rates, especially for women students.

Marist Attrition Data

I obtained attrition institutional data from four sources: (1) The Office of Student Academic Affairs; (2) The Office of Student Affairs; (3) the Office of Adult Education; and (4) The Office of Institutional Research. Each of these sources will be discussed separately.

The data from the Office of Student Affairs only provides information about resident students and encompassed the period of September 1987 through the start of the spring semester 1988. This office reports that 7.3% of the starting resident count withdrew from campus housing and in most cases withdrew from Marist (5.8%). The overwhelming majority withdrew between December and January. Marist has shown considerable fluctuation in the attrition rates over the last ten years. It should be noted that off-campus apartments has a disproportionately high attrition rate. As indicated earlier in this paper, on-campus housing relates positively to retention rates and off-campus negatively.

In the Housing report, 50 males and 40 females withdrew from the college prior to receiving their degrees. After making an adjustment for the lower proportion of females (44%) to male students at Marist (56%), this data does not show that females are more likely to withdraw.

The data from the Office of Student Academic Affairs includes data from both resident and commuter students and encompasses the same period as discussed above (1987/1988). It showed that 76 males and 77 females withdrew or took leaves of absence. Making the adjustment for the smaller percentage of female students on campus, the female students were found to be withdrawing at a higher rate (1.2 times higher).

The table below describes the reason the students gave (on a paper and pencil survey) for why they were withdrawing from Marist during the 1987/1988 academic year.

Reason for Leaving	Male	Female	Total
Leave of absence (LOA)	25	22	47
Transfer	27	21	48
Medical	3	2	6
Personal	17	21	38
Financial	4	6	10
Curriculum	0	3	3
Delay probation	0	2	2
TOTAL	76	77	153

Personal Interview Data	Male	Female	Total
Unhappy with dorm	6	8	14
Want to commute	1	4	5
Academic or major	6	6	12
Stopping out (LOA)	2	1	3
TOTAL	15	19	34

G.P.A. at time of Withdrawal	Male	Female	Total
3.0 and above	8	15	23
2.0 to 2.999	51	42	83
Below 2.0	17	20	37
TOTAL	76	77	153

Although the numerical differences are not great, it is particularly interesting to note that women are more likely to state personal, financial, or curriculum as reason for leaving. Males are more likely to say they are planning to transfer or take a leave of absence. The personal interviews indicate that both males and females report being dissatisfied with dorm life. Women mention they plan to go to another school where they can commute (also perhaps, indicating problems with the dorm life for women). The average G.P.A. data indicates that female withdrawals do have a higher G.P.A. than do males.

More recent data from the period of Fall 1988 to February 24, 1989 indicates the following pattern.

1988/89 Data through February '89

Reason for Leaving	Male	Female	Total
Leave of absence	11	7	18
Transfer	13	9	22
Medical	0	5	5
Personal	8	27	35
Financial	5	5	10
Academics	1	1	2
Employment	1	0	1
	39	55	94

G.P.A. at time of Withdrawal	Male	Female	Total
3.0 and above	4	17	21
2.0 to 2.999	20	22	42
Below 2.0	15	16	31
	39	55	94

Major Field of Study	Male	Female	Total
Business	21	16	37
Communication/A & L	5	22	27
Social & Beh. Sci.	2	9	11
Math/Computer	3	0	3
Science	0	2	2
Undecided	8	6	14
	39	55	94

Resident Status			
Commuter	15	13	28
Resident	24	42	66
	39	55	94

Year in School			
Fresh	20	32	52
Soph	10	8	18
Junior	6	11	17
Senior	3	4	7

It appears that female students, particularly higher G.P.A. females, are withdrawing from Marist at a disproportionately high rate compared to male students. Commuter students make up about one-third of the Marist population and make up 29% of the drop-out population. Female Communication majors (81% of communication drop-outs) are dropping out at a rate much higher than one might expect, given that there are essentially equal numbers of male and female communication majors.

Another significant population to which Marist provided education is adult students. Part time and full time female students outnumber male students. Ellie Charwat reports approximately a 30% attrition rate for non-traditional adult students.

I also examined the Office of Institutional Research 1987 Attrition Report. This report included data from a survey mailed to students defined as "attrits." This group included those undergraduate students who attended Marist from Fall 83 to Spring 1987, but who had not received a degree nor were enrolled in Fall 1986 or Spring 1987 (matches definition 3 for attrition). There was a 28% response rate from 1,069 attrits.

The following cohort attrition statistics were reported for main campus undergraduates.

Entering Year	% Graduating	% Continuing	% Attrition
Fall 1983	51	2	47
Fall 1984	.01	59	40
Fall 1985	--	64	36
Fall 1986	--	76	24

Annual Attrition Statistics
Main Campus Undergraduates

Year	% Graduating	% Continuing
Fall 1985-Fall 1986	16	65
Spring 1986-Spring 1987	21	69
Fall 1986-Fall 1987	16	69

The study further reported that 45% of the students who dropped out left during or at the end of their freshman year, 41% during or at the end of sophomore year, 10% and 4% respectively by the end of the junior and senior years. Marist appears to have a higher drop-out rate during and at the end of sophomore year than is reported at most institutions.

The report further states that females are more likely to leave voluntarily, although no specific statistics were cited. Additionally, it was reported that females reasons for leaving were that Marist is too small and has insufficient stimuli in student life and it does not have strong academic programs. Male attrit students felt student life "perpetuated high school" and felt they were treated like children. They also recommended that student self-government be strengthened.

The list below are the reasons most often cited for leaving Marist:

1. Marist too costly for benefits received
2. Marist inappropriate choice
3. Insufficient challenge
4. Housing problems
5. Lack of motivation
6. Poor academic program.

As we can see, Marist students' reasons for leaving are very similar to those reported by other researchers. It appears Marist administrators, faculty, and staff need to convince our students that Marist is worth the cost. Students appear to want more benefits and it likely will be important for us to learn more specifically what benefits they desire. If our students are similar to those reported in published reports, they are likely to feel they need more quality time with faculty and other students. The 1987 attrition report does indicate that student-teacher relationship and peers are rated as positive Marist attributes and employment skills received a lower rating. Other areas of the report were not broken down by sex of respondent, but other reactions were reported in general: (1) there seems to be a negative orientation towards Marist's housing; (2) there is a need for improving program content, instruction, standards, and counseling; (3) attention needs to be placed on students self-government and self-discipline; (4) an evaluation of cost/benefits needs to be made; and (5) there is a need to make commuter, transfer students, and adult students feel integrated into Marist.

Summary/Recommendations

Several people mentioned that Marist students lack an identity and that Marist "doesn't know what it wants to be when it grows up." When asked, "What is Marist College known for?" The leading responses that I have gotten to this question are: 1) basketball, 2) the Marist Opinion Poll, 3) Lowell Thomas Communications Center and Award, 4) the Marist brothers, 5) the Business major, and 6) Computer Science major. This list, as I see it, is not a list that is readily appealing to women.

Further, college life across the nation appears to be a "chilly" one for many women. Faculty, staff and administrators may be well-advised to listen to their own language and evaluate their own behaviors to insure that they are not contributing to a sexist "chilly" environment. Faculty need to take women students seriously and not look at them as only potential wives and mothers. It does appear we are losing a disproportionate number of our academically strong women students. Perhaps we need to actively pursue the development of an honors program. The existing literature on the effects of honors programs suggest that honors programs aid in retention. We can begin to immediately recognize, on a more regular basis, our academically successful programs. The Psychology program at Marist College has begun sending out letters of congratulations to Dean's List majors and having a reception in their honor. Many students indicated how grateful they were to be recognized in this fashion. Women, in particular, have been encouraged in the past to put their wants and needs aside and to keep quiet. We need to begin to help them acknowledge and express their own needs. We need to let women students know that we cannot survive without them. The transition to college is a difficult one for most students and particularly hard for women. We need to provide them greater help with this transition.

The primary commitment of any institution of higher education should be to the students and the students should sense that this commitment is in place. Our students express the feeling that they are not as valued as they would like to be--and have a right to be. Education, not retention, should be the goal of institutional retention programs. As Noel stated, "the more students learn, the more they sense they are finding and developing a talent, the more likely they are to persist; and when we get student success, satisfaction, and learning together, persistence is the outcome." We need to sell our product a bit more. That is, we need to be more direct in demonstrating to our students that we are interested in their earning a degree that will relate to their future life success.

It does not appear good enough just to offer activities and club opportunities on campus. We need to invite students to join. We need to use the data we collect during the admissions process, regarding the students talents and interests, by putting the students in contact with specific persons involved in those activities on campus. Faculty need to invite students to their offices and not merely announce or post office hours. Faculty, staff, and administrators need to informally interact with students. Women, in particular, need this more informal contact. We will need to develop places to meet with groups of students. Students, like most other humans, like people who like them and they don't like people who disregard or degrade them. If we believe our students will not be successful, we will no doubt find that they won't prove our expectations wrong. Perhaps more faculty need to get inspired to teach whomever we are given the honor to teach. I am reminded of the teacher in California, whom the movie Stand and Deliver is based upon, this teacher found abilities in those "throw-away" kids that no one else believed existed. I cannot help but wonder what Marist would be like if every teacher would teach each class as if their own children were the ones sitting in the audience. How different would the college atmosphere be?

We need to all develop a sense of pride about being associated with our particular college. Imagine an atmosphere in which students, alumni, faculty, and staff would be as likely to wear their college's t-shirt or display their college bumper sticker as would be a Harvard graduate.

Women students, commuter students, and minority students are more like the Caucasian male students than they are different. Nevertheless, these students have special needs. If we are going to continue admitting these students to our colleges, we need to meet these special needs for them to remain there.

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WORKSHOP

SUCCESSFUL UNDERGRADUATE RESEARCH PROJECTS

Presented by:

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Background

Last year at this conference we presented a talk entitled "Getting Undergraduates Involved in Research." We received many requests to present specific examples of experiments that students were able to successfully complete. A number of people in the audience shared some of their own examples. We put together this workshop to allow us to have more time to share examples of experiments and projects. Our aim is to provide enough detail so that you can go home from this conference and set up these experiments with your students. We hope that you will also share with us examples of projects that your students have successfully completed.

Table of Contents

I. Advantages and Disadvantages of Undergraduate Research

II. Specific Examples of Undergraduate Research

- A. Perception
- B. Social Psychology
- C. Cognitive Psychology
- D. Advanced Experimental Psychology
  - 1. Social Psychology
  - 2. Cognitive/Sensation-Perception

III. Appendices

- A. Syllabi
- B. Research Topics
- C. Equipment
- D. Useful Handouts and Forms

I. INTRODUCTION

Psychology is defined as the scientific study of behavior and mental processes. Using this definition the foundation of psychology is research. We feel that a comprehensive undergraduate program in psychology necessitates student involvement in research. In this presentation we will highlight the advantages and disadvantages of student research, provide examples from our own courses, and outline important considerations in implimenting a research program with undergraduates.

II. ADVANTAGES

1. PSYCHOLOGY AS A SCIENCE

Doing research in psychology provides undergraduates with a better understanding of the scientific principles underlying the discipline. Even though psychology textbooks review scientific methodology and cite numerous research examples, students often do not acknowledge psychology as a science. Participation in research causes them to more readily understand its scientific nature.

2. DIRECT EXPERIENCE WITH EXPERIMENTATION

Students who only learn about research through textbook examples do not usually understand or appreciate the complexity of experimentation. They memorize the necessary steps, but do not fully comprehend the trial and error nature of resarch or the length of time necessary to design and conduct an experiment. Students who conduct their own well-designed and rigorously controlled studies gain a more realistic view of the research process.

3. AN UNDERSTANDING OF EXPERIMENTAL CONTROL

In this same vein - students who are actually designing their own experiments learn the importance of experimental control. Random selection and assignment, controlling for extraneous variables, and experimenter bias are no longer concepts to be defined on a test. Students must apply these directly to their own research.

SKILLS

Students who do research also gain several valuable skills which are transferable to other courses, to graduate school experiences, and to careers outside psychology.

4. STATISTICAL SKILLS / COMPUTER SKILLS

Students learn how to use and apply statistics and computer software packages in order to analyze their data.

5. ORAL AND WRITTEN COMMUNICATION SKILLS

Since research must involve the communication of one's results in written and/or oral form, students develop and hone these very important skills.

We both require written research reports in APA style in most of our courses. We also encourarge oral communication of the research. Many of our students have presented papers at undergraduate research conferences or before the members of the department.

6. PROBLEM-SOLVING SKILLS

Designing and conducting an experiment requires creative problem-solving. When students transfer their experimental hypotheses into an actual design, they are proposing a method to provide answers to a specific question. In order to create a well-designed and controlled study, the student must review the literature, consider several options, and determine whether the design is valid and reliable. They -- unknown to many of them -- develop skills of problem-solving and critical thinking.

7. PROJECT FOLLOW-THROUGH

Another important transferable skill that students learn when doing research is the ability to follow a project through from its initial development to final completion. Students begin with hypothesis development, move to the design stage, collect data, and then interpret and communicate their results. Having responsibility for a complete project like this is an experience which is valued in many professions.

INTERPERSONAL ADVANTAGES

8. LEADERSHIP SKILLS / INTERPERSONAL SKILLS

Involving students in group research projects provides opportunities for the development of leadership and interpersonal skills. This has obvious benefits for most work and administrative settings, as well as providing students with experience in research collaboration. In order to produce and complete a quality product - they must learn to ignore personality differences and work for the common good. Though sometimes frustrating, it is a necessary lesson to learn.

9. RESPONSIBILITY

In both group and more obviously individual research projects, students are given a considerable amount of responsibility. Stimulus materials must be completed, subjects must be run, data must be analyzed; all by the students. They learn very quickly that if one small part is not done or not done correctly, the project can fall apart. Most motivated students take their work very seriously and display a great deal of responsibility.

10. INCREASE FACULTY-STUDENT INTERACTION

Student research projects require a great deal of faculty supervision and consultation. This provides a considerably different pedagogical atmosphere from the traditional classroom setting and one that serves to develop a closer relationship beteween professor and student.

11. GRADUATE SCHOOL PREPARATION

As the competition for acceptance to the top grad school programs increases, undergraduate research experience has become a necessary qualification. Thus - psychology departments are obligated to provide students with research opportunities.

12. FACILITATES FACULTY RESEARCH

Undergraduate students can also help faculty in conducting their own research. Students who are well-trained and have a good understanding of statistics and experimental design can aid faculty research by collecting data and doing basic data analysis, At small colleges with no gradate program -- undergrads can participate in faculty research as grad students would.

13. PROMOTES INTEREST AND ENTHUSIASM IN PSYCHOLOGY

Involvement in research stimulates interest and enthusiasm in psychology. Students discover that research can be fun and exciting. This motivates than to apply to graduate programs in order to further their education in psychology.

III. DISADVANTAGES

There are a number of disadvantages in getting students involved in ressearch. Some of these problems are caused by the students and some by the situation. You will find it much easier if you are prepared for these problems.

1. IRRESPONSIBILITY

Some undergraduates are irresponsible and may not show up for their appointments with subjects. So you end up with subjects around with no experimenter. You must stress the importance of not only showing up, but getting to the lab before the subjects arrive.

2. NOT GETTING WORK DONE ON TIME

Some students will not get the work done on time. They may be scheduled to run subjects on Monday afternoon, and show up on Monday morning to tell you that they didn't get the response sheets finished or they forgot to do some part of the preparation.

3. SOCIAL LOAFING

If students are working in a group, one member may not do his/her part. This either holds up the rest or others take over for the social loafer. In either case this breeds resentment among the students.

4. LACK OF CONFIDENCE

Many students lack confidence and they just cannot work independently. This results in numerous frantic late-night phone calls to your house to ask sometimes trivial questions.

5. SLOPPINESS

Some students will fail to take the task seriously, or will just be lazy or sloppy about the work. This can result in several serious problems. One problem is errors in data collection: sloppiness, carelessness, or down right faking the data. Another problem is in the student's understanding of the instructions. The student experimenter may either misunderstand, or simply forget, the instructions and rather than asking for clarification, he/she may guess how to run the experiment. Some students will find the instructions too tedious and take "short-cuts." Some will just be sloppy in the way they run subjects, assuming that it "really doesn't matter" that much how the experiment is run.

6. HANDLING OF EQUIPMENT

Sloppiness or carelessness with equipment is another major problem. Students can easily damage expensive equipment by careless handling. It is important to carefully train students not just how to work the equipment but also what to do when something goes wrong with the equipment.

7. EXPERIMENTER BIAS

There are also problems that result from students interacting with subjects. The students may have a very high experimenter bias effect. They often express too much emotion in front of the subject: laughing, giggling, smirking, egging the subject on, or expressing disappointment, anger, disgust, or frustration toward the subject. Again careful pre-training of student experimenters is very important.

8. SUBJECT CONFIDENTIALITY

Another problem is the violation of subject confidentiality. Students may discuss particular subjects with friends, roommates, or later subjects.

9. TIME CONSTRAINTS

There are also a number of problems that result from the situation. One of these is time constraints. One semester is usually not enough to go from the idea, to full literature search, to do enough pretests, to "working out the bugs", and actually conducting the experiment. As a result students often don't get to see all that goes on from start to finish. This is often frustrating to the students. It can also be frustrating to you in that when you are working on a long project you may have to retrain new students each semester.

10. STUDENT FRUSTRATION

A final problem you may face is that students get frustrated very easily, especially if they put in a great deal of time and effort and don't get the expected results.

Many of these problems can be addressed by very careful planning on the part of the faculty member. However, this may give students a misleading view of science. Ideally one would like to try to find a careful balance between the real-world frustrations and effort involved without making research look so difficult that you turn students off. Many times a stepwise introduction to research is called for: each year giving students more involvement and more responsibility so that they will get to enjoy the excitement and reward of success early on before facing the frustration of failure.

A. Perception

1. The Verbal Transformation Effect

Readings

Warren, R.M., & Warren, R.P. (1970, December). Auditory illusions and confusions. Scientific American, 233, 30-36.

Materials

Tape recorder

Procedure

Subjects are divided into two groups. Group One listens to a tape recording of a single syllable word repeated for three minutes. Group Two listens to a tape recording of a multisyllable word repeated for three minutes. Each subject lists all the words they heard on the tape.

Expected Results

There will be fewer variations of the multisyllable word than the single syllable word.

Variations

Use a foreign language word
Use a non-word
Compare familiar versus unfamiliar words

2. Adaptation, Aftereffects

Readings

Kohler,W. & Wallach,H. (1944). Figural after-effects: an investigation of visual processes. Proceedings of the American Philosophical Association, 88, 269-357. McCollough,C. (1965). Color adaptation of edge detectors in the human visual system. Science, 149, 1115-1116.

Materials

Illusionater (spinner for spiral aftereffect) from Lafayette Instruments Company(See Appendix C)
Color aftereffect papers from Carolina Biological Company(See Appendix C)
Pens and paper
Stopwatch

Procedure

Run each subject in three conditions looking at the spiral aftereffect (motion), the color aftereffect, and either the curve aftereffect or tilt aftereffect. Each stimulus is shown for several different durations, e.g. 1 minute, 3 minutes, 5 minutes. The experimenters note the duration of the perceived aftereffect.

Expected Results

As the stimulus duration increases so will the duration of the aftereffect. Also it takes much longer to get the figural aftereffects (curve or tilt) than the motion or color aftereffects.

Variations

Try monocular versus binocular adaptation
Try interocular transfer
Try McCollough effect

3. Time Perception

Readings

Fraisse,P.(1984). Perception and estimation of time. Annual Review of Psychology, 35, 1-36.

Materials

Familiar and unfamiliar stimuli. These can include musical selections, English versus foreign language words, or pictures
Stopwatch

Procedure

Each subject sees or hears a selection of familiar and unfamiliar stimuli. Each stimulus is presented for a different amount of time. Familiar and unfamiliar stimuli are presented for 5 seconds, 15 seconds, 30 seconds, 1 minute and 2 minutes. After each presentation the subject verbally estimates the duration of the stimulus presentation .

Expected Results

Subjects will overestimate the duration of the unfamiliar stimuli.

Variations

Have subjects use the stopwatch to recreate the duration rather than verbally estimate
Compare auditory versus visual stimuli

B. Social Psychology

1. Relationship between self-monitoring and college major

Readings

Snyder, M.L. (1979). Self-monitoring processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, (Vol. 12). New York: Academic Press.

Materials

Self-monitoring scale

Procedure

The study is designed to test for differences in self monitoring between psychology, drama, and math majors. Depending on the number of students in the group or class, each student administers the self-monitoring scale to one to three subjects. A self-monitoring score is computed for each subject. Students are then responsible for data analysis.

Expected Results

We found that drama majors had a significantly higher self-monitoring score than psychology and math majors.

2. Group Polarization

Readings

Wallach, M.A., Kogan, N. & Bem, D.J. (1962). Group influence on individual risk taking. *Journal of Abnormal and Social Psychology*, *65*, 75-86.

Materials

Choice-Dilemma Questionnaire

Procedure

This study is designed to assess the effect of group discussion on individual judgments. It is done as an in-class demonstration. Students are randomly assigned to groups of four to five persons. Each student is given a choice dilemma questionnaire and instructed to read each of five scenarios and determine the probability of success necessary before he/she would advise the individual to take the described action. No group interaction occurs at this point. After everyone has completed all situations, students are given 2-3 minutes to discuss each scenario. After the group discussion each student is asked to re-evaluate the answer and to record what she/he now thinks. Consequently, each person has a pre and post discussion answer. I collate the answers, give them to the students, and they are required to test for differences between the pre-post answers for each scenario.

Expected Results

Depending on the number of students in the class and the variability in the answers, significant conservative and risky shifts usually occur.

C. Cognitive Psychology

1. Spatial Memory

Readings

Hasher,L. & Zacks,R.T.(1979). Automatic and effortful processing in memory. Journal of Experimental Psychology: General, 108, 356-388.

Materials

Large posterboard ruled off into 8x8 squares
15 pennies
15 small common objects - for example, eraser, whistle, key, small toy, nut, lipstick, pencil sharpener, nail clipper, small mirror, small box, book of stamps, tape measure, earring, magnet, pocketknife
Blindfold
Stopwatch

Procedure

Subjects were blindfolded and seated in front of a table with the posterboard on it. The 15 objects were laid out and then the subject's blindfold was removed. Subjects were given 1 minute to study the array and then were reblindfolded. The experimenter removed the objects and piled them next to the posterboard. Subjects were to replace each object in correct location. One-half of the subjects saw pennies and the other half saw the various objects.

Expected Results

The location of the distinct objects were remembered better than the similar objects (the pennies).

Variations

Look for sex differences in spatial memory
Vary the distinctness of objects. For example, use pennies, nickels, dimes, quarters, which are different but still all coins.

2. Cognitive Mapping

Readings

Lindberg,E. & Garlins,T.(1983). Acquisition of different types of locational information in cognitive maps: automatic or effortful processing? Psychological Research, 45, 19-38.

Presson,C.C. & Hazelrigg,M.D.(1984). Building spatial representations through primary and secondary learning. Journal of Experimental Psychology: Learning, Memory and Cognition, 10(4), 716-722.

Materials

Tape recorder
Blindfold
Paper and pen
Various large common objects. For example, chair, pole, box, podium, table, plant, music stand, lamp, cart.
A large empty room
Cardboard compass

Procedure

A route was set up in a large empty room using the various objects (chair, podium, etc.) as landmarks for turns. The subjects were divided into four groups. Each group received a different type information about the route. Group One received a map-like drawing of the route to memorize. Group Two listened to a tape-recorded verbal description of the route. Group Three walked the route blindfolded (the experimenter named each landmark as they reached it). Group Four walked through the route with their eyes open. All the subjects were tested on their memory for the landmarks and their configural knowledge of the route. Landmark memory was tested by having subjects list the landmarks in order. Configural knowledge was tested by questions such as: imagine you are standing at the podium facing straight ahead on the route, point the compass needle to the chair.

Expected Results

The walking group will do best, the map group will do slightly less well, and the verbal description and blindfolded groups will do poorly.

Variations

Look for sex differences in ability

3. Limited Capacity, Dual Task, Automatization

Readings

Kahneman,D.(1973). Attention and Effort. Englewood Cliffs,NJ:Prentiss-Hall.

Schneider,W. & Shiffrin,R.M.(1977). Controlled and automatic human information processing: I. Detection, search, and attention. Psychological Review, 84, 1-66.

Hirst,W., et.al.(1980). Dividing attention without alternation or automaticity. Journal of Experimental Psychology: General, 109, 98-117.

Materials

Mirror star tracing apparatus from Lafayette Instruments Company (See Appendix C).
Stopwatch from Lafayette Instruments Company

Procedure

Part A: Subjects are divided into 6 groups. Group One (the control group) traces the star while looking at their hand normally. Group Two traces the star while looking at their hand in the mirror. Group Three traces the star normally while counting outloud by ones. Group Four traces the star using the mirror while counting by ones. Group Five traces the star normally while counting backwards by threes. Group Six traces the star using the mirror while counting backwards by threes. The experimenter records the total time it takes to trace the star and the number of errors made while tracing.

Part B: One group of subjects practices for several days tracing the star using the mirror. The experimenter records how many practice trials beyond asymptotic performance until the subjects can perform the task quickly and without effort while counting. Compare the effect of forward versus backward counting.

Expected Results

Using the mirror makes the task much more difficult and so does counting backwards. Part B allows the student to look at the development of automaticity.

Variations

Look for individual differences based on gender, academic major, or athletic ability.

D. Advanced Experimental Psychology
Social Psychology

1. Observational Research

Readings

Jenni, D.A., & Jenni, M.A. (1976). Carrying behavior in humans: Analysis of sex differences. Science, 194, 859-860.

Materials

Coding Sheet

Procedure

The class decides what behavior it wants to observe. I create a coding sheet.(See Appendix D). The behavior is defined and observation sites are determined. During the next class students observe and record the behavior for a two-hour period.

Topics

Gender differences in book-holding behavior
Gender differences in dress
Gender differences in shoewear

2. Survey Research

Readings

Weir, R.M., & Okun, M.A. (1989). Social support, positive college events, and college satisfaction. Evidence for boosting effects. Journal of Applied Social Psychology, 19, 758-771.

Materials

Survey

Procedure

The class designs a survey on a predetermined topic. I have copies made and distribute the survey to several psychology classes. The students then work in groups of four persons to analyze the data.

Topics

Student satisfaction with college experiences
Political survey
Student perceptions of psychology major
Student understanding of the discipline of psychology

3. Content Analysis

Readings

Weigel, R.H., Loomis, J.W., & Soja, M.J. (1980). Race relations on prime time television. Journal of Personality and Social Psychology, 39, 884-893.

Materials/Equipment

Videotape of television shows
VCR
Coding sheet

Procedure

The students choose a behavior that can be observed on television shows. We clearly define the behavior and how to sample the shows. I videotape these television shows and create a coding sheet. The students watch the videotape during class, code for the behavior, and analyze the data.

Topics

Seat belt wearing behavior in police/detective shows
Aggressive behavior in children's cartoons
Portrayal of sex roles in cartoons

4. Major Research Project

Assignment

Students are assigned to groups of 3-4 persons. As a group they are responsible for designing an experiment to test a specific hypothesis in social psychology.

Stages of Research Project

TOPIC: The groups choose their topics. Each student is required to hand in a paragraph explaining the topic and a list of at least five references.

PROPOSAL: Each student writes her/his own research proposal. This includes a title page, introduction, methods, and reference section.

ORAL DEFENSE: Each group is required to orally defend its proposal. The groups meet with the professor who questions them on past research, their hypotheses, and the present design.

EXPERIMENT: The students conduct the experiment. They are permitted to collect and analyze the data as a group.

ORAL PRESENTATION: Each group presents its findings to the class in a conference format. Interested faculty, students, and even the Dean and President have been invited to attend these presentations.

FINAL PAPER: Each student must hand in a final paper on the project. The paper is a complete APA style report of the research.

Topics

ProSocial Behavior
  diffusion of responsibility in a nonemergency situation
  the effect of gender of victim and observer on helping behavior
  the effect of perceived victim responsibility on helping behavior

Attribution
  the effect of outcome and member familiarity on attributions of responsibility in a group problem solving task

Conformity
  conformity behavior as a function of group size using social dilemma questions
  effect of time constraint and involvement on conformity behavior

Intergroup Conflict
  competition and cooperation with same sex and mixed sex dyads

Advanced Experimental Psychology
Cognitive/Perception

1. Physiological Influences on Memory

Readings

Maylor,E.A. & Rabbitt,P.M.A.(1987). Effect of alcohol on rate of forgetting. Psychopharmacology, 91, 230-235.

Materials

Apple II (e or +) microcomputer
Applesoft program (see Appendix D)
Cups, vodka, orange juice, water
Questionnaire to eliminate subject who might be "at risk"

Procedure

Subjects were all over 21 and screened for possible problems. The subjects were then divided into three groups. The alcohol group received vodka and orange juice in proportion to their body weight. The placebo group received orange juice diluted with water (poured from a vodka bottle) and were told they were drinking alcohol. The control group were given a glass of orange juice and told that they were in the control group. All subjects waited twenty minutes and then took the computerized delay memory test.

Expected Results

The alcohol group will do significantly worse on the memory test than either the placebo or control group.

Variations

*We went through an extensive review process by several campus deans before being allowed to run this experiment. The following variations may be interesting and less of a problem.

Use caffeine such as from coffee or NO-DOZE
Look at the influence of sleep deprivation
Look at the influence of hunger

2. Iconic Storage

Readings

Sperling,G.(1960). The information available in brief visual presentations. *Psychological Monographs*, *74* (11, Whole No. 498).

Materials

Tachistoscope from Gerbrands Corporation(See Appendix C)
Stimulus cards drawn by experimenters

Procedure

Replicate Sperling's experiment using three different sizes of stimuli. An array of small letters, an array of medium letters, and an array of large letters.

Expected Results

Size of the array has no influence on number of items recalled.

Variations

Use different fonts
Use different colors

3 Visual Search

Readings

Neisser,U.(1964). Visual search. *Scientific American*, *210*, 94-102.

Cooper,L.A., & Shepard,R.N.(1973). *Chronometric studies of the rotation of mental images*. In W.G.Chase(Ed.), Visual information processing. Orlando, Florida: Academic Press.

Materials

Tachistoscope from Gerbrands Corporation(See Appendix C)
Stimulus cards created by the experimenters
Reaction time device by Gerbrands Corporation (See Appendix C)

Procedure

Subjects are shown an upright letter of the alphabet and asked to look for that letter in the stimulus array. The arrays are presented in the tachistoscope. Each array contains 42 letters. In the array the letters are either upright, tilted 45 deg., 90 deg., 135 deg., or 180 deg. The target letter can appear in any position in the array. Subjects press a key to indicate when they have located the target.

Expected Results

Location in the array and degree of rotation influence search time.

Variations

Try variations in the rotation of the target letter.

APPENDIX A

EXPERIMENTAL PSYCHOLOGY

Spring 1990 TTH 2:00
Psych 402 Commons 122

Course Text

Shaughnessy, J.J. & Zechmeister, E.B. (1985). Research Methods in Psychology. New York: Knopf.

Harris, P. (1986). Designing and Reporting Experiments Phila., PA: Open University Press.

Office Hours

My office is 130 Commons. I will have office hours:
M W F: 9:00am - 11:00am
or by appointment.

I encourage you to stop by, especially if you are having problems with the course material or assignments.

Assignments and Grading

Your only exam will be a final exam which will cover material from the entire semester. You will also have 5-6 lab assignments. Some of these will be conducted outside the class, but the majority will be worked on during the lab session. You will then be required to hand in a typed lab report in APA style. Each student will present a published psychological article to the class. I have provided a list of chosen articles and the date each is to be presented. These articles will be placed on reserve in the library. Your major assignment in this course is a group research project. You will design a study, collect data, analyze the data, and communicate your results in a research paper and in a class presentation. You will work on this project, as well as many of the lab assignments, in assigned groups of 3-4 students. However, each member of the group is required to write her/his own paper and lab reports. While these might by similar (you all have the same data), they will not be identical due to the different writing style each one of you has.

The course grade will be derived as follows:

Lab assignments	20%
Presentation	5%
Class participation	5%
Research paper	40%
Final Exam	30%

Outline

Date	Topic	Read
Jan 16	Philosophy of Science	
Jan 18	Intro to Methodology Lab:Hypothesis Development	Ch 1
Jan 23	Social Psychology as a Science Lab:Group meetings	Gergen (1973) Schlenker (1974)
Jan 25	SPSSx Research Writing Lab:Writing SPSSx file statements	Harris book Part 1
Jan 30	Observation Lab:Design and coding	Ch 2
Feb 1	Observation Lab:Conduct observation study	
Feb 6	Sampling and Survey Research	Ch 3
Feb 8	Survey Construction	
Feb 13	Survey Construction Lab:Construct class survey	
Feb 15	Analysis of Survey data and presentation of results Lab:Analysis and write-up results	
Feb 20	Class Presentations	
Feb 22	Class Presentations	
Feb 27	Oral Defenses	
March 1	Oral Defenses	
March 13	Experimental Design Lab:Group meetings	Ch 5
March 15	Complex Designs Social Psychology of the Psychology Experiment	Ch 7
March 20	Analysis of Complex Designs	
March 22	Ethics in Human Research	Appendix B
March 27	Quasi-experimental vs. True experiments	Ch 9

March 29	Class presentations	
April 3	Class presentations	
April 5	Alternatives to Direct Observation	Ch 4
April 10	Content Analysis Lab:TV content analysis	
April 12	Research Projects: Statistics Workshop	
April 17	Applied Behavior Analysis	Ch 8
April 19	Research Projects: Writing Workshop	
April 24	Review	
April 26	Annual Psych 402 Research Conference	
May 1	Issues in Experimental Social Psychology	

Feb 27: PROPOSALS DUE

April 24: RESEARACH PAPERS DUE

May 5, 1:30 FINAL EXAM

IMPORTANT DATES

Jan 18	Hand in research topics.
Jan 23	Research groups assigned.
Jan 25	Hypothesis Lab due.
Jan 30	SPSSx Lab due.
Feb 8	Observation Lab due.
Feb 8	Basic Design of Research Project due. Each person should hand in a detailed outline of their group's experiment and at least five references.
Feb 20-22	Class presentations.
FEb 22	Survey Lab due.
Feb 27	Research Proposals due.
Feb 27-March 1	Oral defenses.
March 29-April 3	Class Presentations
April 17	Content Analysis Lab due.
April 24	Research Papers due.
May 5	Final Exam

Class Presentations

Feb 20 & 22

1. **Bagley (1988)**
2. **Biaggo (1988)**
3. **Lynn (1988)**
4. **Riggio & Sotoodeh (1989)**
5. **Rusbult (1980)**
6. **Woolfolk (1983)**
7. **Mazer & Percival (1989)**
8. **Weir & Okun (1989)**

March 29 & April 3

1. **Alicke, Smith, & Klotz (1987)**
2. **Drambot, Reep, & Bell (1988)**
3. **Peterson & Pfost (1989)**
4. **Fleisher & Chertkoff (1986)**
5. **Middlemist, Knowles, & Matter (1976)**
6. **Koocher (1977)**
7. **Middlemist, Knowles, & Matter (1977)**
8. **Schaeffer, Street, Singer, Baum (1988)**
9. **Weller & Livingston (1989)**

Reserve Readings

Spring 1990 Psych 402 Dr. K. Harring

Alicke, M.D., Smith, R.H., & Klotz, M.L. (1987). Judgments of phsical attractiveness: The role of faces and bodies. Personality and Social Psychology Bulletin, 12, 381-389.

Bagley, C. (1988). Day care, maternal mental health and child development: evidence from a longitudinal study. Early Child Development and Care, 39, 139-161.

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Gergen, K.J. (1973). Social psychology as history. Journal of Personality and Social Psychology, 26, 309-320.

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Mazer, D.B. & Percival, E.F. (1989). Students' experiences of sexual harassment at a small university. Sex Roles, 20, 1-22.

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Riggio, R.E. & Sotoodeh, Y. (1989). Social skills and birth order. Psychological Reports, 64, 211-217.

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Schlenker, B.R. (1974). Social psycholog and science. *Journal of Personality and Social Psychology*, *29*, 1-15.

Weir, R.M., & Okun, M.A. (1989). Social support,positive college events, and college satisfaction: Evidence for boosting effects. *Journal of Applied Social Psychology*, *19*, 758-771.

Weller, L., & Livingston, R. (1989). Effect of color of questionnaire on emotional responses. *The Journal of General Psychology*, *115*, 433-440.

Woolfolk, M.E., Castellan, W., & Brooks, C.I. (1983). Pepsi versus Coke: Labels, not tastes, prevail. *Psychological Reports*, *52*, 185-186.

EXPERIMENTAL PSYCHOLOGY - PERCEPTION AND COGNITION

Dr. Laura Snodgrass
Office: Commons 112 Phone: 821-3426
Office Hours: M 9-10, Tu 11 -12, W 3-4 and by appt.

Texts: Human Experimental Psychology by Snodgrass, Levy-Berger and Haydon and Doing Psychology Experiments 2nd Ed. by Martin

TENTATIVE SCHEDULE

DATE	TOPIC	READING
AUGUST		
31	Introduction	HEP ch 1
SEPTEMBER		
5	How to: use theory, get an idea, find out what has been done. LAB: How to write: a. research proposal b. lab write-up c. APA style term paper	Martin 11,2,3
7	Perception & Attention class presentations LAB: Experiment 1 planning	HEP 6
12	Perc. cont. LAB: Experiment 1 data collection	
14	Designing Experiments LAB: Finish exper. 1 data collection and analysis.	HEP 2, Martin 1
19	** Experiment 1 due!!!! Variables and designs LAB: term project planning	Martin 4 and 5
21	**Topics due for approval Designs continued. LAB: Term project research proposal	
26	Types of Experiments LAB: present research proposal	Martin 6, 7, 8
28	Types cont. LAB: Review for midterm	
OCTOBER		
3	** Midterm on HEP ch. 1 & 6 and Martin Ch. 1-8 & 11	
5	Memory: Class presentations LAB: Experiment 2 planning	HEP 8
12	Memory cont. LAB: Exper.2 data collection	HEP 9
17	Pitfalls LAB: Exper.2 analysis	HEP 3

19	Psychophysics LAB: Term project	HEP 4
24	Psychophysics cont. LAB: Exper 3 planning	
26	Psychophysics class presentations LAB: Exper 3 data collection	
31	cont. LAB: Exper 3 analysis	
NOVEMBER		
2	Mental Chronometry LAB: Term project	HEP 5
7	** Experiment 3 due Mental chronometry cont. LAB: term projects	
9	** Outline and Bibliography due (1 per group) LAB: Critique of projects each group will present their introduction,methods expected results, planned data analysis and implications	
14	Topics in cognition LAB: Plan Experiment 4	
16	Topics in Cognition LAB: Exper. 4 data collection	
21	Topics in Cognition LAB: Exper. 4 analysis	
28	**Experiment 4 due Subjects and Ethics LAB: Term projects	HEP 9, Martin 12,13
30	Interpreting results LAB: Term projects	HEP 15, Martin 9
DECEMBER		
5	** TYPED ROUGH DRAFT DUE REVIEW	
7	CLASS PRESENTATIONS	

12 ****PAPERS DUE!!!!!!

13 Final at 1:30 covering HEP ch. 3,4,5,12,15 and Martin 9,12,13 and lectures.

GRADING: Each of the four experiments is worth 5% (total 20%), each of the two class presentations is worth 2.5% (total 5%), the midterm is worth 30%, the final is worth 20% and the term paper is worth 25%

LATE papers lose 2% per day.

Attendance policy: The Psychology Department Attendance policy is in effect for this class, however you really cannot afford to miss any of the labs.

APPENDIX B

PERCEPTION
PAPER TOPIC POSSIBILITIES

1. psychophysics, indiv diffs, diff over day, signal detection
2. perceptual learning - mirror tracing, goggles, Gibson exper
3. McCollough effect
4. braille - learning, jnds
5. illusions - spatial, motion, etc.
6. spatial perception - location information, cognitive mapping
7. disorders - aphasias, blindness, deafness, etc.
8. music perception
9. art and perception
10. color perc - factors that influence
11. individual or cultural differences in perception
12. time perception
13. phermones in animals and humans
14. haptic perception
15. vestibular sys - motion sickness, in rel to vision, video games
16. adaptation - any system, timing, duration, aftereffects
17. perceptual principles in advertising
18. Gestalt grouping principles - clever examples - your own or from print
19. emergent features
20. scene perception
21. esthetics
22. stereopsis - binocular interactions
23. computer vision
24. speech perception

APPENDIX B

COGNITIVE PROCESSES PAPER TOPIC POSSIBILITIES

1. verbal transformation effect
2. gist memory
3. mental imagery
4. memory models
5. divided attention, multiple tasks, dichotic listening
6. illusory conjunctions
7. language - deficits, processing, bilingualism, sign lang, deafness
8. reading - deficits, speed, indiv diffs, dyslexia
9. hemispheric asymmetry - sex diff, handedness, cog style
10. consciousness - brain states, sleep & dreams, drugs, cog proc, history of views
11. mnemonics - comparison of techniques
12. human calculators - idiot savants
13. intelligence - how to measure, genius, retardation
14. A.I.
15. computer simulations
16. history of cog psych
17. skill - motor or cognitive
18. expert systems
19. cognitive mapping
20. creativity - insight
21. eyewitness testimony
22. speech perc.
23. emotions and cog
24. indiv diff - sex, major, age on any cognitive task
25. spatial memory
26. problem solving, protocol analyses, spatial versus verbal, sex differences

APPENDIX C

EQUIPMENT COMPANIES

Carolina Biological Supply Company
Main Office & Labs
2700 York Road
Burlington, NC 27215
toll free 800-334-5551

Gerbrands Corporation
8 Beck Road
Arlington, MA 02174
617-648-6415

Lafayette Instruments Company
P.O. Box 5729
Lafayette, IN 47903
317-423-1505

Stoelting Company
1350 South Kostner Avenue
Chicago, IL 60623
312-522-4500

APPENDIX D

Computer Program for Experiment on the Influence of Alcohol on Memory

Program is written in Applesoft Basic
by Dr. Laura Snodgrass

```
10  DIM W$(200).R(200)
12  DIM OD 5>
20  FOR A = 1 TD 200
30  READ W$(A): NEXT A
40  INPUT "SUBJECT #":S
50  INPUT "CONDITION.1=C.2=A.3=P"
     :0
60  HOME
70  PRINT "THIS IS A TEST OF YOUR
      MEMORY"
80  PRINT "A SERIES OF WORDS WILL
      BE"
90  PRINT "FLASHED ON THE SCREEN
     ONE AT"
100  PRINT "A TIME. EACH WORD WIL
     L BE"
110  PRINT "FLASHED IN THE CENTER
      OF THE"
120  PRINT "SCREEN FOR ABOUT ONE
     SECOND."
130  PRINT "AFTER EACH WORD YOU A
     RE TO"
140  PRINT "INDICATE WHETHER THE
     WORD WAS"
150  PRINT "FLASHED PREVIOUSLY."
160  PRINT "OBVIOUSLY. YOUR RESPO
     NSE
170  PRINT "TO THE FIRST WORD WIL
     L BE NO."
180  PRINT "INDICATE YOUR RESPONS
     ES BY"
190  PRINT "TYPING 1 FOR YES AND
     3 FOR NO"
200  PRINT "BUT RESPOND ONLY AFTE
     R THE"
210  PRINT "WORD HAS DISAPPEARED.
     "
215  INPUT "PRESS 9 AND RETURN TO
      GO ON":R
220  HOME
230  HTAB 19: VTAB 10
235  PRINT "X": PRINT : PRINT
240  PRINT "EACH WORD WILL APPEAR
      AT"
250  PRINT "THE LOCATION OF THE X
     ON"
260  PRINT "THE SCREEN. PLEASE HI
     T 9 AND"
270  PRINT "RETURN TO BEGIN."
280  INPUT "BEGIN ? ":BG
290  HOME
300  FOR A = 1 TO 300
```

```
300  FOR A = 1 TO 200
310  HTAB 19: VTAB 10
320  PRINT W$(A)
330  FOR B = 1 TO 500: NEXT B
340  HOME
350  INPUT "1=YES 3=NO AND RETURN
      FOR THE NEXT TRIAL":R(A)
360  NEXT A
370  HTAB 19: VTAB 10
380  PRINT "THANK YOU FOR YOUR PA
     RTICIPATION"
390  PR# 1
400  PRINT "SUBJECT # "S
410  PRINT "CONDITION= "
420  IF C = 1 THEN  PRINT "CONTRO
     L"
430  IF C = 2 THEN  PRINT "ALCOHO
     L"
440  IF C = 3 THEN  PRINT "PLACEB
     O"
450  PRINT : PRINT "RAW DATA": PRINT
     : PRINT
460  FOR A = 1 TO 200: PRINT R(A)
     :: NEXT A
465  FOR A = 1 TO 5
470 CD(A) = 0: NEXT A
475  DIM ND(5,19)
477  FOR A = 1 TO 5
479  FOR B = 1 TO 19
480  READ ND(A,B): NEXT B: NEXT A

485  FOR A = 1 TO 5
490  FOR B = 1 TO 19
495 Q = ND(A,B)
500  IF R(Q) = 1 THEN CD(A) = CD(
     A) + 1
505  NEXT B
510  NEXT A
520  PRINT : PRINT "# CORRECT DEL
     AY 1 = "CD(1)
530  PRINT : PRINT "# CORRECT DEA
     LY 4 = "CD(2)
540  PRINT : PRINT "# CORRECT DEL
     AY 9 = "CD(3)
550  PRINT : PRINT "# CORRECT DEL
     AY 19 = "CD(4)
560  PRINT : PRINT "# CORRECT DEL
     AY 49 = "CD(5)
570 ER = 0:ED = 0
580  FOR A = 1 TO 200
585  IF R(A) = 1 THEN ER = ER + 1

590  NEXT A
600  FOR B = 1 TO 5
610 ED = ED + CD(B)
620  NEXT B
630 ET = E9 - E9
640  PRINT : PRINT "# FALSE POSIT
     IVES = "ET
```

```
1000  DATA   THING.BREAD.SMOKE.GRA
      VE
1010  DATA   HEART.FIGHT.DRIVE.FIG
      HT
1020  DATA   GRAVE.STICK.CLOUD.FIR
      ST
1030  DATA   SMOKE.NOISE.GUARD.MON
      EY
1040  DATA   SKIRT.MONEY,TODAY.STI
      CK
1050  DATA   TITLE,BREAD,TITLE,NOI
      SE
1060  DATA   HOTEL.SHEEP.DRIVE.SHE
      EP
1070  DATA   WORRY,HOTEL,CLOUD,OFF
      ER
1080  DATA   STONE,OFFER,COAST,FLE
      ET
1090  DATA   PLANT,SIGHT,UNION,FRU
      IT
1100  DATA   FLEET,LOCAL,HABIT,CAB
      IN
1110  DATA   FRUIT,CABIN,PLANE,SIG
      HT,UNION,CLASS
1120  DATA   THING,PLANE,STONE,HON
      EY
1130  DATA   HEART,HONEY,PLANT,WOR
      TH
1140  DATA   PEACE,CLASS,NORTH,FIR
      ST
1150  DATA   HABIT,PEACE,PUPIL,DRE
      SS
1160  DATA   SKIRT,WORTH,EIGHT,SCA
      LE
1170  DATA   EARTH,TOWER,QUEEN,MAR
      CH
1180  DATA   PUPIL,DRESS,JUDGE,QUE
      EN
1190  DATA   WORRY,VOICE,ALARM,WHI
      TE
1200  DATA   ALARM,SPARE,COAST,FRE
      ME
1210  DATA   JUDGE,FRAME,LIMIT,CRO
      WN
1220  DATA   EARTH,LOCAL,FAITH,BRA
      IN
1230  DATA   CROWN,HORSE,SPORT,PAR
      TY
1240  DATA   SPORT,VOICE,HORSE,WHI
      TE
1250  DATA   FAITH,LATIN,ORDER,GLO
      RY
1260  DATA   DREAM,MOUNT,DREAM,ORD
      ER
1270  DATA   NORTH,TRACK,CHIEF,BRA
      IN
1280  DATA   ISSUE,PORCH,BIRTH,MOL
      NT
1290  DATA   EIGHT,ENEMY,PORCH,TOW
      ER
```

```
1300  DATA  STAND,LATIN,ENEMY,GLO
     RY
1310  DATA  BIRTH,GUESS,MONTH,TRE
     AT
1320  DATA  PAPER,TREAT,FLESH,SPA
     RE
1330  DATA  ISSUE,GRACE,SHORE,POU
     ND
1340  DATA  LIMIT,POUND,FENCE,STA
     TE
1350  DATA  DEATH,RIVER,HONOR,GRA
     DE
1360  DATA  LAUGH,PARTY,MONTH,SWI
     NG
1370  DATA  MATCH,STATE,YOUTH,PAU
     SE
1380  DATA  HONOR,MATCH,SHORE,YOU
     TH
1390  DATA  TROOP,FLOUR,BLOCK,FLO
     UR
1400  DATA  CHEIF,RIVER,PRIDE,WHO
     LO
1410  DATA  GREEN,WHOLE,PAINT,SWI
     NG
1420  DATA  BLOCK,GREEN,STAND,PAI
     NT
1430  DATA  STRIP,CHARM,STRIP,GUE
     SS
1440  DATA  TROOP,VISIT,CHARM,PIE
     CE
1450  DATA  FLESH,WATCH,PRIDE,STA
     GE
1460  DATA  PIECE,STATE,RIGHT,VIS
     IT
1470  DATA  CREAM,STUFF,DEATH,STU
     FF
1480  DATA  WATER,YOUNG
1490  DATA  LAUGH,YOUNG,RIGHT,WAT
     ER
2000  DATA  8,18,23,28,34,46,55,8
     3,88,99
2010  DATA  109,132,140,162,168,1
     77,188,194,198
2020  DATA  9,30,41,45,52,64,78,9
     5,101,110
2030  DATA  121,125,156,158,172,1
     74,181,187,200
2040  DATA  13,20,24,48,49,60,68,
     75,76,87
2050  DATA  108,119,127,146,152,1
     55,171,190,199
2060  DATA  22,27,30,53,57,68,91,
     100,102,114
2070  DATA  124,126,135,149,157,1
     64,170,179,185
2080  DATA  51,55,62,67,79,85,92,
     111,119,122
2090  DATA  134,139,146,163,173,1
     78,183,193,197
3000  END
```

CODING SHEET FOR OBSERVATIONAL STUDY

GENDER DIFFERENCES IN BOOK-CARRYING BEHAVIOR

		GENDER	
		MALE	FEMALE
BOOK-CARRYING BEHAVIOR	FRONT		
	SIDE		

SURVEY

The Experimental Psychology class is conducting this survey to assess students' perceptions of the psychology major. Please answer the questions as honestly as possible. Do not put your name or any other identifying marks on the survey. Do not fill out the survey if you were given it in another class. Thank you for your participation.

For the following questions, circle the response which best describes you.

Sex:	1 Male	2 Female		
Year:	1 Freshman	2 Sophomore	3 Junior	4 Senior

Are you a psychology major? 1 Yes 2 No

Are you a full-time Muhlenberg student? 1 Yes 2 No

Including this semester, how many psychology courses have you taken?

_________________ psychology courses

Are you planning on attending graduate school in psychology?
1 Yes 2 No

For the next questions, rate the psychology program as it currently exists. For each factor you will be rating the **quality** (How good is it?) and the **quantity** (Is there enough of the factor available?). You will be rating these factors on the following scale:

A = Excellent
B = Good
C = Average
D = Poor
F = Failing

For example if you feel that the quality of course assignments is excellent, but the professors don't make enough assignments; you might rate the **quality** as an A and the **quantity** as a D.
Circle the letter which best expresses your response concerning the quality and quantity for each factor.

	Quality	Quantity
1. Teaching	A B C D F	A B C D F
2. Courses	A B C D F	A B C D F

	Quality	Quantity
3. Seminars (Special topics)	A B C D F	A B C D F
4. Laboratory courses	A B C D F	A B C D F
5. Applied courses	A B C D F	A B C D F
6. Classrooms	A B C D F	A B C D F
7. Laboratory facilities (rat lab & experimental cubicles)	A B C D F	A B C D F
8. Research equipment (computers, Skinner boxes T-scope, biofeedback program)	A B C D F	A B C D F
9. Faculty-Student interaction	A B C D F	A B C D F
10. Guest speakers	A B C D F	A B C D F
11. Opportunities for internships and field work	A B C D F	A B C D F
12. Opportunities for research experience	A B C D F	A B C D F
13. Career information (grad school & job opportunities)	A B C D F	A B C D F

14. In general, how satisfied are you with your major?

1	2	3	4	5
very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied

15. To what extent has the new curriculum change affected the quality of your learning experience in the psychology major?

1	2	3	4	5
extremely decreased	somewhat decreased	stayed the same	somewhat increased	extremely increased

CODING SHEET FOR CONTENT ANALYSIS

SEATBELT WEARING BEHAVIOR IN DETECTIVE/POLICE SHOWS

Whenever an individual gets into a car, record whether or not the seat belt is worn.

	SEATBELT	
	WORN	NOT WORN
SHOW WATCHED: ________________		
SHOW WATCHED: ________________		
SHOW WATCHED: ________________		

JUST TO REMIND YOU - YOU HAVE AGREED TO PARTICIPATE IN AN EXPERIMENT

____

DATE ____

TIME ____

PLACE ____

PLEASE CONTACT ____

IF YOU ARE UNABLE TO PARTICIPATE. THANK YOU.

____

JUST TO REMIND YOU - YOU HAVE AGREED TO PARTICIPATE IN AN EXPERIMENT

____

DATE ____

TIME ____

PLACE ____

PLEASE CONTACT ____

IF YOU ARE UNABLE TO PARTICIPATE. THANK YOU.

I AGREE TO PARTICIPATE IN THE EXPERIMENT

____

I UNDERSTAND THAT I CAN DISCONTINUE MY PARTICIPATION AT ANY TIME DURING THE EXPERIMENT.

NAME (print) ______________________________

SIGNATURE ______________________________

SOCIAL SECURITY # ______________________________

PROFESSOR ______________________________

COURSE ______________________________

COURSE DAY & TIME ______________________________

____

I AGREE TO PARTICIPATE IN THE EXPERIMENT

____

I UNDERSTAND THAT I CAN DISCONTINUE MY PARTICIPATION AT ANY TIME DURING THE EXPERIMENT.

NAME (print) ______________________________

SIGNATURE ______________________________

SOCIAL SECURITY # ______________________________

PROFESSOR ______________________________

COURSE ______________________________

COURSE DAY & TIME ______________________________

EXPERIMENT NAME --

EXPERIMENTER --

DATE OF EXPERIMENT --

PLACE --

TIME	NAME	BOX #	PHONE #

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A Short Course on APA Style for Psychology Students

John H. Hummel and B. Christiana Birchak
University of Houston-Downtown

Papers for advanced psychology courses necessitate that students learn to identify and report information appropriately. Unfortunately, many college students at both the graduate and undergraduate levels remain unaware of the writing conventions used in different disciplines. Although English departments increasingly offer guidance in writing across the curriculum, most composition courses retain the **Modern Language Association Handbook** (Gibaldi & Achteri, 1984) as the guide for preparing formal papers. Therefore, psychology students often encounter difficulties in preparing papers that conform to the **Publication Manual of the American Psychological Association** (1983).

The **Publication Manual** does not target students as its audience. Instead, it serves as a resource for professionals who desire to publish various technical manuscripts. Thus, students often blame their stylistic errors on the manual's complexity (Hummel, 1988).

The present article responds to students' complaints by condensing the specialized writing conventions associated with APA style. A handout was developed by conducting a task analysis of the requirements of the APA style as applied to student papers.

The handout is divided into three areas: Typing instructions, citations used in the paper, and reference page construction. Instructions consist of a list of do's and don'ts with examples and referrals to the **Publication Manual** (1983) where appropriate. Use of standard English by students is assumed.

Typing Instructions

1. For details not specifically addressed, refer to chapter four, pp. 135-156, of the Manual.
2. Use margins of 1.5 inches (top, bottom and sides). Each page should contain no more than 25 lines of text with pica type set at 55 characters per line, and elite at 66.
3. Do not justify lines if using a word processing program.
4. End each line of text with a complete word (e.g., do not hyphenate words at the end of a sentence).
5. Double-space all lines including references.
6. Number all pages starting with the title page. Page numbers are located in the upper-right corner of each page 1.5" from the top and right margins.
7. The title page should be centered and should contain: The paper's title, the author's name, and the author's affiliation.

Example A:
Term Paper

Training Teachers to Use
Behavior Modification
John H. Hummel
PSY 4304, Section 1721

Example B:
Article Summaries/Critiques

Summary of Deitz and Arrington's
"Wittgenstein's Language-games and the Call to Cognition"
John H. Hummel
PSY 4304, Section 1721

8. Term papers and data-based reports must have an abstract unless otherwise indicated by the professor. The abstract is always on a page by itself (page two of the paper). The word Abstract should be centered at the top of the page. The abstract should be 50 to 150 words in length and must be typed as one blocked (no indentation) paragraph.

9. New paragraphs should be indented five spaces from the left margin.

10. Most papers will require headings when introducing new topics. For example, the last section of a term paper should be its discussion, and would appear in the paper as follows:

    Discussion

    Headings should be as brief as possible with the first letter of each word capitalized. (Note: The first section of a term paper, the introduction, does not have a heading). There are five levels of headings used in APA-style manuscripts. Refer to pp. 65-68, Sections 3.28-3.30, of the APA Publication Manual for more detailed directions of headings.

11. Do not underline words or use single or double quotation marks to provide emphasis.

Citations

1. All works cited, whether through paraphrasing or direct quoting, must be referenced in the text of the paper with one exception; if one is summarizing/critiquing a single article, paraphrasing does not have to be referenced. (Remember to paraphrase accurately.)

2. Limit your sources to published books, journals and papers presented at conferences. Avoid citing non-copyrighted materials and materials published in newspapers and magazines (e.g., Psychology Today). Use of such sources may require a different method of both in-text citations and references, and one must refer to the APA Publication Manual for the appropriate style.

3. Obtain permission to quote when necessary. For example, APA-copyrighted works require written permission before using a total of over 500 words of another's work. Try to keep direct quotes from a single source to less than 500 words.

4. Complete quotes of 40 words or less should be incorporated within paper's text, begun and ended with double quotation (e.g., " ") marks, and must be followed by a parenthetical reference citing the author(s), date of publication and the page(s) where the quote is printed.

A. The first time a work is quoted or paraphrased, all authors (if 6 or less) are cited in order, by their surnames in the parenthetical reference. If the work has one or two authors, cite all of them by their surnames each time the work is cited. If the work has three or more authors, cite all of them in the first parenthetical reference. Later references will parenthetically cite the first author's surname followed by the expression et al., date and specific page number(s) if the reference is a direct quote. If the work has more than six authors, cite the primary author's surname followed by et al. and list all the authors of the work in the citation on the reference page.

Example A:

Imbedded Text Reference For Paraphrasing

Although many behavioral scientists feel that punishment should never be used, Deitz and Hummel (1978) offer two situations where it may be ethical to use the procedure.

Example B:

Imbedded Text Reference For Paraphrasing

There are two situations where punishment procedures may be warranted: When all other deceleration methods have failed or when the behavior is a clear and present danger to self or others (Deitz & Hummel, 1978).

Example C:

Imbedded Text Reference For Direct Quotes

Using punishment to decelerate behavior is problematic. In general, "Punishment should be reserved for only very serious misbehaviors and should be used only when other alternatives have been exhausted" (Deitz & Hummel, 1978, p. 81).

Example D:

Imbedded Text Reference For Direct Quotes

Using punishment to decelerate behavior is problematic. According to Deitz and Hummel (1978), "Punishment should be reserved for only very serious misbehaviors and should be used only when other alternatives have been exhausted" (p. 81).

B. Quotes of more than 40 words must be presented (a) as an indented (5 spaces from the left margin) block, (b) without quotation marks, (c) followed by a parenthetical reference after the quote's final punctuation mark(s) that always cites the page(s) where the quoted materials are located in the original work.

Example E:

Direct Quote Longer Than 40 Words

Punishment is one of the most widely used procedures to decrease behavior in school settings because teachers are not familiar with other deceleration procedures, and because it works quickly and effectively.

> The decision to use punishment should be made carefully. Special consideration should be given to whether or not the procedure can be implemented properly. If implemented correctly, punishment will reduce a misbehavior faster and more efficiently than any other reductive technique. However, in many cases, once the procedure is stopped, there is a high probability that the misbehavior will return to its original level unless the child has been taught alternate, desirable behavior that can be done instead of the misbehavior. (Deitz & Hummel, 1978, p. 96)

Example F:

Direct Quote Longer Than 40 Words

Punishment is one of the most widely used procedures to decrease behavior in school settings because teachers are not familiar with other deceleration procedures, and because it works quickly and effectively. Still, Deitz and Hummel (1978) do not advocate reliance on punishment.

> The decision to use punishment should be made carefully. Special consideration should be given to whether or not the procedure can be implemented properly. If implemented correctly, punishment will reduce a misbehavior faster and more efficiently than any other reductive technique. However, in many cases, once the procedure is stopped, there is a high probability that the misbehavior will return to its original level unless the child has been taught alternate, desirable behavior that can be done instead of the misbehavior. (p. 96)

5. Avoid quoting material that either references or quotes a second copy-righted work. If you must, follow the guidelines on p. 141, Section 4.13 of the **APA Publication Manual**.
6. Do not use ellipsis (...) points. These are used when one omits part of an original source (e.g., when not quoting an entire sentence). Quotes out of context can be misinterpreted. If you quote only part of a sentence, follow the directions on p. 70, Section 3.36, of the **APA Publication Manual**.
7. If possible, do not use footnotes. If you must, refer to p. 105, Section 3.83, of the **APA Publication Manual**.

Constructing the References Pages

1. The list of references is always started on a new page.
2. The word Reference should be centered at the top of the page.
3. All sources cited in the manuscript must be listed in alphabetical order on the reference page.
4. References are not bibliographies. Bibliographies refer the interested reader to additional sources for further reading that were not cited in the manuscript through paraphrasing or direct quotation, and are

not used in APA-style manuscripts.

5. Each reference is typed double-spaced. All lines of a reference except for the first are indented 3 spaces from the left margin.

6. The general format for a book reference involves: (a) List all authors (in the order in which the names appeared on the original manuscript) by their surname followed by the initials of their first and middle name (if known); (b) the date of publication is presented in parentheses after the listing of authors, and is followed by a period; (c) the title of the book follows the publication date. The entire title is underlined and followed by a period. Only the first word of the title is capitalized with two exceptions: When proper nouns, such as a person's name, are included in the title, or when the book's complete title uses a colon. The first letter of a word following a colon is capitalized. If the book is a second or later edition, after the title, in parentheses without underlining, list the edition using the following type of abbreviations: (2nd ed.); (d) Following the book's title is publication information which includes the city where the book was published and the name of the publisher (city and publisher are separated by a colon). If the name and location of the city is not well known, the city's name may be followed by the abbreviation of the state where the city is located. Information about the publisher should be as brief as possible (avoid using Co., Inc., etc.). Table 17 (pp. 123-127) of the **APA Publication Manual** illustrates 15 variations of book references (second and later editions, edited books, corporate authors, etc.).

Example of a Book Reference

Deitz, S. M., & Hummel, J. H. (1978). Discipline in the schools: A guide to reducing misbehavior. Englewood Cliffs, NJ: Educational Technology Publications.

7. The general format for journal references is: (a) surnames and initials for all authors, separating each with commas. Use an ampersand (&) instead of the word and before the surname of the last author; (b) list the date of publication in parentheses after the authors' names, followed by a period; (c) the article title with only the first word capitalized (again, proper nouns such as a person's name or use of a colon in the article title require additional capitalization), followed by a period; (d) title of the journal, underlined, with the first letter of each word of the title capitalized excepting prepositions (e.g., of, and, etc.), followed by a comma: (e) numeric volume number underlined (issue numbers follow the volume number in parentheses and are not underlined), followed by a comma; and (f) the inclusive range of pages where the article is published in the journal without the abbreviation pp. or the word pages.

Example of a Journal Reference

Deitz, S. M., & Arrington, R. L. (1984). Wittgenstein's language-games and the call to cognition. Behaviorism, 12(2), 1-14.

8. The general format for a conference paper is: (a) author surnames and initials separated by commas in the order in which they appear on the paper, with the last author's surname preceded by an ampersand (&): (b) year and month of presentation, separated by a comma, in parentheses, followed by a period; (c) title of the paper with only the first letter of the first word of the title capitalized (exceptions include proper names and the first letter of a word following a colon), followed by a period; and (d) a short sentence naming the group to whom the paper was presented and the city and state (abbreviated) in which the meeting was held. Table 17 (pp. 129-130) of the **APA Publication Manual** illustrates four variations for referencing presentations made at conventions including symposia.

Example of a Reference to a Paper

Hummel, J. H. & Hall, J. P. (1982, May). Efficiency of handouts on the test performance of college students. Paper presented at the annual meeting of the Association for Behavior Analysis, Milwaukee, WI.

Discussion

Using this handout alleviates students' fear of following an unfamiliar format. It enables them to appreciate the interdisciplinary aspect of the writing task and to regard it as merely another problem to be solved. Such an approach to writing strengthens its usefulness as a learning tool. While the handout is not a substitute for the **APA Manual**, it can be used by students (and their teachers) as an inexpensive resource by which students can more easily learn APA requirements for typing, in-text citations, and constructing the references page(s).

The authors wish to thank Samuel M. Deitz, Ph.D., Professor and Chairman, Foundations of Education Department, Georgia State University, for his editorial comments on an earlier version of this manuscript.

Reprints are available from John H. Hummel, Department of Psychology, University of Houston-Downtown, One Main St., Houston, TX 77002.

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Hummel, J. H. (1988, May). Teaching APA style to undergraduate students. Poster presented at the annual meeting of the Association for Behavior Analysis, Philadelphia, PA.

Hummel, J. H., & Hall, J. P. (1982, May). Efficiency of handouts on the test performance of college students. Paper presented at the annual meeting of the Association for Behavior Analysis, Milwaukee, WI.

Note: The APS Observer does not use APA style and thus except where noted there was no attempt to insure that the present article was consistent with it.

Psychology and the Law: The Rights of Children

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Psychology and the Law: The Rights of Children

Recently, the American Psychology-Law Society, Division 41 of the American Psychological Association, compiled more than 30 syllabi for psychology, criminal justice, and law courses - a testament to the interest in, and diverse possibilities for integrating legal and psychological topics. Legal studies courses like those included in the Syllabi Project can be an important component of the undergraduate psychology curriculum because, as Swenson (1983) argues: (a) legal decisions are based on assumptions about human behavior, the focus of contemporary psychology; (b) psycholegal research provides interesting examples of the potential relevance of psychological research; and, (c) many majors choose careers in law, or in human service positions that bring them into contact with legal issues and decisions. In addition, Psychology majors, like all liberal arts undergraduates, should understand at least American Law since it affects every citizen and non-citizen resident. The Syllabi Project, then, can be a useful resource for psychology departments considering the importance of adding information on the law to coursework for psychology majors.

However, the Syllabi Project is lacking syllabi in one area of the law that has been attracting worldwide attention in recent years, and which is particularly relevant to psychology - concern for the rights of children. Developmentalists have a long history of involvement in the juvenile justice and child welfare systems and there is an increasing interest in the relevance of developmental psychology for legal reform (Melton, 1987). Such interests are timely in view of the 1989 vote by the United Nations to adopt the Convention on the Rights of the Child, the most comprehensive document to date aimed at the survival, development, and protection of the world's children by legally defining their rights (United Nations Children's Fund, 1990). This document provides a framework for discussion and evaluation of American laws that affect children, and offers a challenge to psychologists to gather evidence that will indicate whether our laws reflect current knowledge about children.

The opportunity to develop a course on the rights of children at Chestnut Hill College occurred, in part, because of a mini-grant from the American Bar Association Commission on College and University Nonprofessional Legal Studies. The Rights of Children course was initiated as part of the college's

Interdepartmental Honors Program. This program focuses on interdisciplinary learning through discussion and writing. Students read 200 to 400 pages per week including appellate court decisions from a law school casebook, and meet once a week throughout the academic year to learn from faculty, each other, and independent study. This format provides a unique opportunity for a small group of students to develop their thinking about the relationship and differences between two disciplines. A limiting factor of the program, however, is the small number of students who are able to experience this intense, but creative alternative to traditional classroom learning. The mini grant from the American Bar Association Commission on College and University Nonprofessional Legal Studies provided an opportunity to extend some of the conversation on the rights of children to a broader audience. In that regard, two symposia were developed. The first symposium Race, Education, and the Law, was developed to consider legal decisions and psychological research, primarily on desegregation of schools and testing of American minorities, since Brown v. the Board of Education, the first Supreme Court case to make extensive use of social science research as a basis for the decision. The issue for the second symposium was chosen to consider recent court rulings on the death penalty for juveniles. The Inter-American Commission on Human Rights has criticized the United States for executing children under the age of 18.

Additional course topics considered for symposia topics included child custody, child abuse and neglect, medical treatment of children, competence of children to make decisions and act as witnesses, student rights, child labor, mental health commitments, status offenses, juvenile delinquency and juvenile justice. In almost every area, there is a base of psychological research that can be used as a basis for reflecting on court decisions. In the few areas where research is sparse, students consider the kinds of information that would be needed to help evaluate legal decisions.

Coursework on the rights of children encourages students to focus on contemporary and historical issues that can be addressed from a psychological perspective. Instructors who do not want to develop a new course on the rights of children can find ample information to integrate into existing developmental or social psychology courses through lecture, readings or projects. An added bonus is the enthusiasm students seem to have for the topic.

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THE HANDS-ON PROJECT IN A COURSE ON ADOLESCENT DEVELOPMENT: NOT YOUR USUAL TERM PAPER

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The Hands-On Project in a Course on Adolescent Development:

Not your Usual Term Paper

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The author is a developmental psychologist who teaches an undergraduate course in adolescent development through the department of human development at the University of Maryland in College Park. The course attracts juniors and seniors from throughout the university. A typical class of 30 students might represent 15-20 different majors.

Over the past two years it has been found that a "hands-on" term project is an effective means of helping to meet the diverse needs and interests of such a class and of giving students experiences beyond textbooks and library resources. Hands-on refers to the expectation that students collect original data, study original artistic sources, or propose plans for confronting adolescent problems.

The hands-on project is seen as different from the usual term paper in three ways.

First, students are encouraged to view adolescence from a broad perspective in considering areas of interest that might not be included in the typical course on adolescent development. For example, the adolescent athlete, teen prostitution, the adolescence of one's parents, teens as consumers, and adolescent music.

Second, is the expectation that students, in addition to using the usual library resources, would incorporate one or more of the following in the project:

(1) On-site, in-the-field observations and/or data collection (studies, surveys, questionnaires, interviews).

(2) Familiarity with original sources if studying movies, novels, music, or similar material related to adolescence. One might also develop artistic creations dealing with adolescence (film, literature, music, photography).

(3) Problem-solving through proposed programs or plans to confront critical areas of adolescence, e.g., suicide, drug abuse, pregnancy, school dropouts.

Third, students select a mode of presentation that is best suited to the nature of their project. In most cases this is a written product, for example: a log or journal, case study, critiques (movies, music, or literature), results of surveys or questionnaires, biographies or autobiographies, or, programs to deal with adolescent problems. Artistic creations might also be submitted, either as written products (novella, short stories, poetry, music) or as films, photographic studies, or paintings. In all cases there would be supporting text from related readings.

An important part of this assignment is the time given at the end of the semester when students share their projects with their classmates in brief presentations of their major findings.

While most students work alone on the project, some students prefer to work in groups of two or three, an arrangement that has also been successful.

It has been observed that the hands-on project not only stimulates students to perceive adolescent issues from a wider perspective, but it also offers an opportunity for students to have direct experiences of a research or artistic nature in studying adolescent development. It would seem that these characteristics of the hands-on project present the student with imaginative and rewarding ways of thinking about and studying the adolescent.

ADOLESCENT DEVELOPMENT THE HANDS-ON PROJECT

Each student is to select a project that results in a written product. THIS IS NOT THE USUAL TERM PAPER. IN ADDITION TO LIBRARY RESEARCH YOU ARE EXPECTED TO PURSUE OTHER MEANS OF INQUIRY.

The project is an intensive effort focusing on some aspect of adolescent development. The project is unlike a term paper in that in addition to the usual sources of information (professional journals, books, magazines, newspaper articles) the project is to include one or more of the following:

(1) Hands-on, on site, in-the-field observations and/or data collection (studies, surveys, questionnaires, interviews, etc.)

(2) Familiarity with original sources if studying movies, novels, or music related to adolescence.

(3) Problem solving or proposed programs and plans to approach critical areas of adolescence, e.g., suicide, drugs pregnancy.

Some examples of the form the project might take follow. You may have other ideas.

1. Reaction Notebook. A log of your thoughts and reactions from class material; miscellaneous musings about adolescence; comments and reactions to things you have read, experienced. Be sure to include (1), (2), or (3) above. (May be handwritten).

2. Case Study. Written observations of an adolescent (10-15 hours) spent with the person) including: introduction, background, observations/anecdotes, reactions of others, more, summary.

3. Novels. A critique of a novel (s) that focuses on the success the author had in characterizing adolescence, the development during this period, interests, joys, needs, sorrows.

   There are novels written for adolescents in which an adolescent may or may not be the main character; also, there are novels written for adults in which an adolescent is the protagonist.

4. Films. As above.

5. Write a Short Story, or a play about an adolescent or some aspect of adolescent development. Or, outline one

or two novels, short stories, plays, films that you think would be effective in portraying something about adolescents.

6. Write About Your Adolescence, or that of a relative or friend; or that of a famous person.

7. Survey/Questionnaire. Construct an instrument for gathering data (opinions, attitudes, experiences) from or about adolescents and administer the instrument. Present your findings (tables, graphs) and draw some conclusions.

8. Proposed Programs for Adolescent Problems. Identify a problem area of adolescence and develop a program or plan to address the problem.

The final product could include any or combinations of the following: typed written text (all projects), tapes, films, photographs, drawings. If surveys are conducted, include the original data sheets used by your subjects.

Citations and references in the project can, but do not have to, follow the format of the American Psychological Association. i.e., the reference appears in the body of the text as follows (Santrock, 1990, pp. 594-626); see those pages for sample entries in the reference section and throughout the textbook for other citations. Generally, footnotes are not necessary except for special citations or credits.

How "long" should the project be? A fair questions but one that is difficult to answer because the projects may take quite different forms, e.g., novella, film surveys, book reviews, etc. Your project should reflect substantial effort as required in the semester-long endeavor.

Group projects of 2 students are permissible, but should show significant accomplishment.

Dates for Project Activities:

Project Outline Due (typed): An overview of what you plan to do and how you will do it.

Your ideas, your problems, whatever would be included. This would probably not be a highly polished proposal at this point.

The purpose is for you to give some thought to the project as soon as possible and for the instructor to react with ideas and suggestions to help you.

Project progress Report (Typed): A summary progress you have made on your project. This report might include sample material, results of surveys, significant references and interesting information you have found, and plans for organizing your project. You might also focus on what more needs to be done and the problem areas you are facing.

The purpose is for you to remain focused on the project and to identify problems that the instructor may be able to help you solve.

Project due.

> Students are asked to present the results and/or conclusions of their projects to the class during the last class sessions.

SUGGESTED TOPICS IN ADOLESCENT DEVELOPMENT

Adolescence has many facets and is related to many issues, endeavors, enterprises, activities, and problems.

In selecting a topic for study select an area that is of interest to you for whatever reason, that is, your academic major, your hobbies, your family history, your curiosity, etc. You do not have to be in the behavioral sciences to pursue a study in adolescent development.

Suggestion - try to decide upon a specific aspect of a topic and try to take an unusual or imaginative approach to your research, the latter is suggested only to make the study more appealing to you.

1. The adolescence of famous persons.
2. Your adolescence; your mother's/father's.
3. What do you want for your child when he/she is an adolescent?
4. Teen-age drivers.
5. Menstruation : historical/cultural.
6. Fads and fashions...clothing.
7. Puberty rites..primitive and modern.
8. Teen pregnancy.
9. AIDS and the adolescent.
10. Homosexual teens.
11. Adolescent music.
12. Adolescents in movies/novels.
13. Books written for adolescents.
14. Adolescent homicide.
15. Drugs/alcohol in junior high school.
16. Drugs/alcohol in later teens.
17. Diets..eating disturbances.

18. Love.
19. Gangs..cliques.
20. Greasers, nerds, preppies.
21. The school experience.
22. Religion and spirituality.
23. Immigrant groups: Asians, Hispanics.
24. Runaways/Throw-aways
25. Teen prostitution/pornography.
26. Talented: music, art, athletics, science.
27. Adolescent genius..gifted..retarded.
28. The adolescent athlete.
29. Adolescence in other countries.
30. Ethnic minorities: African Americans, Native Americans, Hispanics, Asians.
31. Social class/residential differences
32. Suicide
33. Emotionally disturbed.
34. Teens in the military.
35. Teens as part-time workers.
36. Teens as consumers.
37. Adolescents & divorce.
38. Adolescents & dating.
39. Friendship.
40. Poverty.
41. Terminal illness.

A microcomputer laboratory for the introductory course.

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With the development of relatively inexpensive microcomputers over the past decade, substantial computer capabilities, including color graphics and animation, have increasingly come within reach of smaller and less affluent institutions. However, applications still remain primarily directed to special projects in advanced courses, or, when applied to introductory courses often involve extensive (and expensive) software, laboratory space, and equipment. For example, Goolkasian and Lee (1988) describe a laboratory for an introductory psychology course which enrolls more than 500 students per semester involving a three room suite dedicated to the laboratory and accomodates 22 2-hour sections of 35 students each week. This laboratory includes microcomputers and a Corvus hard disk networking system. While impressive, it also is beyond the capabilities of institutions such as the one at which I teach where we share available computer facilities with thirteen other departments and numerous programs on campus and where the available facilities consist largely of stand-alone microcomputer stations located in a centrally accessible site.

In this paper I describe a laboratory for Introduction to Psychology which I have implemented in two sections of an introductory psychology course at a small college with limited facilities and equipment. The laboratory was initially offered as one alternative for research participation credit. Credit was granted for completion of computer based projects drawn from materials provided by the publisher of the textbook used in the course. Although relatively few students chose this option, those who did so endorsed the method as an effective way to learn and to bolster interest in the field. In order to increase participation in the laboratory, completion of a computer based laboratory project was required of all students enrolling in the course.

Due to limited resources, the software for the laboratory was obtained as an ancillary to the textbook adopted for the course. There are a series of six program modules which provide simulated experiments over a variety of topics and effects. Earlier work with students convinced me that these simulations were appropriate for the introductory laboratory as they are relatively simple to conduct, yet provide student based data and some comparisons. Data analysis is descriptive in nature, and students are required to submit a written report of the project.

The physical facilities consist of sixteen AT&T PC6300 or IBM AT stand-alone microcomputers located in a single room in the computer center at the campus. In the absence of networking, the laboratory projects are all disk-based and students check out needed disks during three one-hour laboratory periods scheduled each week. Students have additional access to computers on an "as available" basis and may check out necessary materials overnight.

The laboratory is managed by senior psychology majors who earn academic credit as a teaching assistant. These teaching assistants record attendance, assist with and record project selection, and provide necessary assistance during laboratory sessions. They initially read the project reports to provide feedback and suggest improvements. Students having problems are also identified and brought to my attention for further assistance.

Students are required to attend two introductory laboratory sessions. During these sessions, they learn to use the computers, run a series of short demonstration programs, and are informed of the nature of the report they are required to submit. Attendance at subsequent laboratory sessions is left to the student's discretion provided they select and submit the project topic by the announced deadline.

Due to the limited availability of computers for the number of students enrolled in the sections, only one project is required for the course. Additional projects may be submitted for extra course credit.

The major portion of the software for the laboratory was obtained from publishers of the textbooks adopted for the course. There are a series of twelve program modules which providing simulated experiments and guided exercised over a variety of topics and effects. Earlier work with students convinced me that these simulations were appropriate for the introductory laboratory as they are relatively simple to conduct, yet provide student based data and some comparisons. Software and usage among those who completed evaluations of the laboratory are presented in table 1. Additional software, purchased for general use in our department, was also available but was not altogether satisfactory for introductory students as it required considerable sophistication to use.

Students were required to attend two introductory laboratory sessions. During these sessions, they learn the basic operation of the laboratory and the computers, run a program module covering correlational statistics, and are informed of the nature of the report they are to submit. Attendance at subsequent laboratory sessions was left to the student's discretion with the requirement that a topic be selected by the scheduled deadline. Progress was monitered by the laboratory assistant who also provided assistance in reviewing and selecting topics.

Due to the limited availability of computers for the number of students enrolled in the sections, only one project was required for the course. Extra credit was offered for completion of additional projects beyond the required one.

The laboratory was supervised by a senior psychology major who earned academic credit as a teaching assistant. This teaching assistant recorded attendance, assisted with and recorded project selection, and provided necessary assistance during laboratory sessions. She initially read the project reports to provide feedback and suggest improvements. Students having problems selecting topics were are also identified and brought to my attention for further assistance.

A total of 68 students were enrolled in two sections of Psyc-100, Introductory Psychology. All but three students completed the one required laboratory project. These projects commonly required four - eight hours over the course of the semester, including the mandatory introductory sessions. The available topics and the pattern of topic selection are listed in table 1.

Laboratory evaluation:

The laboratory was evaluated at the end of a regular class period during the last week of the semester, following the laboratory project due date. A total of 48 students returned evaluation forms, although not all students responded to all items. The distribution of students across classes reflected that this was a lower level introductory course and was representative of course enrollmen. Thirty-two were freshman, eleven sophomores, three juniors, and two were seniors. Thirty were females, seventeen males, and one declined to specify his or her sex. The distribution over academic majors was broad, with a total of three psychology majors in the two sections. The largest numbers of students were represented by undeclared majors (13) and Education majors with 13 each, followed by English/Communications and Business Administration (with 7 each). Other major programs represented were sociology, Interdisciplinary Studies, and history and political science with one each.

The majority of students (85%) chose the topic they worked on because they personally found it interesting. In addition, 38% said they selected their topic because it was directly related to course material they were studying, while almost one quarter also used the simplicity of the topic as a basis for their selection. Ten percent selected their topic on the recommendation of the laboratory assistant.

The students evaluated the laboratory with regard to ease of use of the materials, increased interest in psychology generally and in the specific topic of their project, and whether or not the lab helped them to learn the material and was fun. The summary of these responses are presented in table 3. The majority of students agreed the materials were easy to use (36, or 75%), an additional 10 (21%) students said they were somewhat easy to use, and no students indicated they were not easy. Eleven of the responding students (23%) said the laboratory materials increased their interest in psychology generally, the majority (29, 60%) indicated they did so to a degree, while only 4 students said they did not. In contrast, twice as many (22, 46%) indicated the materials increased their interest in the specific topic they studied, the same number (22,46%) agreed their interest had been increased somewhat, while only two indicated they had not become at all more interested in the topic. Three quarters of the students (36, 75%) agreed that the laboratory materials had helped them learn the subject better, seven (15%) agreed they had been helped somewhat, and only one said the materials had been of no help in learning.

Students made recommendations for the laboratory. One-half (24, 50%) of the students were in favor of retaining the laboratory as it was. Eighteen (38%) favored expanding the laboratory to include more projects, four recommended eliminating the laboratory altogether, while two recommended "other" with the comment that it takes too much time.

Finally, students were asked to respond to an open-ended question as to their "opinion of the usefulness of the laboratory as a means of teaching" the subject matter. Of the 48 students, six chose not to respond, 34 responded with uniformly positive comments, and eight with negative comments about the laboratories usefulness. The positive comments included this from a senior female in Accounting: "I found it useful because it allowed me to participate in actual experiments and it was fun to use while at the same time easier to learn and understand than by just reading about it." A freshman psychology major said: "It helped me learn more information in ... a part of psychology. Also I never used a computer before so it showed me how to start using one. It was interesting and fun." From a an undeclared sophomore: "It made learning fun, and kept me wanting to learn." A freshman English major: "The computer helped me understand the topics a lot better by being active in the learning." One student very clearly was able to draw personal relevance from her project: "I liked it. It made learning about forgetting easier and made me realize why I forget everything." Another student, although favorable, was less enthusiastic: "I got a better understanding . . .., so I guess its good."

The eight who had negative comments were more succinct. One student (freshman, female undeclared major) asserted that: "It is not useful, it is very boring!" Others shared this sentiment, characterizing it as "useless" and "unnecessary" or by stating that while "the lab was okay" she "really would not recommend it." Two students shared the assessment "that the lab made too much work for an introductory course" or that the lab takes up too much scarce time. Thus while the response was generally positive, it was not unanimously so and some students objected to what was apparently perceived as "busy work."

Summary.

The data generally support the argument that students find computer based activities as both interesting and informative and that they generally perceive themselves to have learned as a result of using such materials (Hovanici, 1986; Peden & Steinhauer, 1986). These data strongly support this latter point, with more students rating the laboratory as effective in learning than as either fun or interest-provoking.

One important feature of this project is that students were required to submit a written report of their work; essentially a brief, formal paper. In preparing this paper, they were expected to go to other sources to support their observations and conclusions drawn from the lab projects. Undoubtedly, this increased the level of involvement in the project and may well have contirbuted to the negative comments concerning the amount of work and the time commitment expected.

In general, however, the laboratory appears to have been successful in promoting interest in specific topics and in promoting learning. It would appear that an effective computer based laboratory can be implemented with minimal resources. Software, one of the most expensive components, is readily available from most textbook publishers. Microcomputers appear to be increasingly available on even the smaller campuses. It is not necessary to have a "dedicated" laboratory, only access to sufficient time on computers to meet the needs. The use of student laboratory assistants is recommeded as they can effectively assist with some of the administrative chores, to help first time users get started and to provide students having difficulty writing the papers with personal attention and assistance.

Properly integrated into the overall objectives of the course, a computer-based laboratory can assist students in mastering the subject matter in developing intellective skills without the technology becoming the central focus of the course.

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Peden, B. F., & Steinhauer, G. D. (1986). FACES in the lab and faces in the crowd: Integrating microcomputers into the psychology course. Teaching of Psychology, 13, 85-87.

Table 1

Topic	Number
Forgetting	19
Visual Illusions	6
Social Decision Making	4
Iconic Memory	4
Mystery Client	4
Maze Learning	3
Other	8
Total	48

Table 2

Why did you select this topic?	
Found it interesting	41 (85%)
Relatively simple to complete	10 (21%)
Related to course material	18 (38%)
Recommended by Lab Assistant	5 (10%)

Table 3

Evaluation of the laboratory materials

	Yes	Somewhat	No
were easy to use	36	10	0
	(75%)	(21%)	
increased interest in the topic	22	22	2
	(46%)	(46%)	(4%)
increased my interest in psychology	11	29	4
	(23%)	(60%)	(8%)
helped learn material better	36	7	1
	(75%)	(15%)	(2%)
made learning fun	22	20	4
	(46%)	(42%)	(8%)

Writing in the teaching of psychology: A comparison of active versus passive teaching methods

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How can students be compelled to become more actively involved in the learning process? Have them write. This is the conclusion of a number of researchers who have examined the role of writing in the curriculum. Dr. Elaine Maimon (1989) has developed the idea that writing can be used as a tool for learning, as a method for "drawing students into the conversation of one's discipline." Writing forces students to organize their thoughts and become actively engaged with the subject matter. Dr. Maimon's conclusions have been echoed in the results of the Harvard Assessment Seminars (Fiske, 1990). The researchers who evaluated the program concluded that when students are required to write something they must organize their thoughts and accept some responsibility for the course, regardless of whether their written work is graded or not. They recommend that professors ask students to write a "one-minute" paper at the end of each class that describes "the big point you learned today" and "the main unanswered questions you still have." The major finding of the study was that "small changes in teaching format can lead to significant gains for students."

We have been teaching psychology for a number of years and have increasingly felt the need to involved students more actively in the learning process. Different techniques and formats have been used in our undergraduate psychology courses, however, these various methods have neither been applied systematically nor evaluated formally. We decided to combine two of Dr. Maimon's suggestions for incorporating the tools of writing into the teaching of our courses and designed a research project to evaluate the effectiveness of this method.

Each of us taught two sections of the same course (Salvatore - Child Psychology, End - Introduction to Psychology). Each courses two sections had approximately the same number of students (the average was 28 students per class), the same text, lecture topics, and multiple choice exams. One section of each course was randomly selected to serve as the experimental group while the other served as the control group. Beginning with the lecture immediately after the first scheduled test, the experimental group spent the last fifteen minutes of class writing a summary of the lecture. Additionally, several students were selected randomly to read their summaries aloud. The rationale behind having students write summaries of the lectures was that writing summaries forces students to extract the outline or framework of the material and to form hierarchical associations. Summaries also provide students with the main points to be remembered and could be useful when studying for the exams. In fact, Reder and Anderson (1980) found that when memory for material was assessed, a group of students who studied only a summary of the material remembered more than those who read the whole text. This was true regardless of whether the question referred to material taken directly from the text or required that students synthesize material and make inferences in order to answer the question.

The control group received the same lecture as the experimental group, however, during the last fifteen minutes of class these students were asked to close their notebooks and passively listen to a summary of the lecture presented by the instructor. Students were permitted to ask questions during this time but were not allowed to write. This procedure was implemented during each scheduled class meeting until the final week of the course. Occasionally, the experimental groups were asked to exchange their written summaries with a classmate to permit peer reviews, as was suggested by Dr. Maimon (1989). The results of the "active" versus "passive" format in the teaching of the course was evaluated by comparing the mean scores of the exams for the two groups.

The results for both studies are summarized below (see Table 1). As can be seen, neither Salvatore (two sections of Child Psychology) nor End (two sections of Introduction to Psychology) were able to demonstrate a significant difference in mean scores between the experimental and control groups, although Salvatore found a trend in the predicted direction. That is, her experimental group scored slightly higher than the control group, and the difference approached significance using a 1-tailed t-test.

Table 1

PRETEST AND POSTTEST MEAN SCORES FOR EXP. AND CONTROL GROUPS

		Pretest Scores:	Posttest Scores
Child Psy.	Exp.	75.03 N=30 s=9.03	79.40 N=30 s=7.48
(Salvatore)	Control	74.83 N=29 s=8.43	76.30 N=30 s=9.34
		t=.084, df=57, ns	t=1.40, df=58, ns
Intro. Psy.	Exp.	93.28 N=25 s=1.67	80.9 N=25 s=3.95
(End)	Control	94.86 N=30 s=1.39	84.8 N=30 s=3.29
		t=.90, df=54, ns	t=1.45, df=54, ns

There are a number of plausible explanations for the lack of a significant difference between our experimental and control groups. Perhaps students writing summaries would have benefitted from more time to write their summaries. It might have been difficult for them to organize their thoughts and commit them to paper in the ten minutes allotted. The quality of the written summaries was generally not as good as the summary supplied by the instructor. Often students missed the main points of the lecture or included trivia and minor points in their summaries. Summaries were not routinely graded. These students might have benefitted from feedback from the instructor concerning the quality of their summaries. This feedback could be given immediately after students who were randomly called on read their summaries. An alternative would be to collect the summaries and photocopy and distribute an example of a good, mediocre, and poor summary. Students could then compare their summaries to these examples from their classmates and identify the strong and weak points in their summaries.

Peer reviews provided some feedback, but the quality of the review depended on the reviewers understanding of the material. It was also noted that the better students tended to have better summaries. Perhaps if the control group generated oral summaries rather than listening to the professor's summary and feedback was provided to both the experimental and control groups concerning the importance of the points they made, we would find a significant difference between our groups. In that situation, actually writing the summary might prove advantageous.

The format of the tests was multiple choice, not essay, so we did not have an opportunity to assess the writing skills of our groups. Perhaps writing summaries is qualitatively too different an activity to show any positive transfer effect. In the future, essay questions could be used to examine whether the experimental group shows a greater general improvement in writing skills due to frequent practice. We have seen great improvements in writing in some of our other classes in which students were required to do longer writing assignments.

In spite of our best efforts, we were not always able to allot the last ten to fifteen minutes of class to the writing/listening of a summary. Although both the experimental and control groups received equal exposure to the two conditions, there were some class periods during which there was not enough time to do the summary.

Finally, despite finding no significant difference between our experimental and control groups on the first exam, subjectively our control groups seemed to be the better classes. They were more involved and active during the class than the experimental groups. Forcing passive students to be actively involved in a small portion of class may not be enough to result in greater learning. For students already intrinsically motivated and actively thinking about the material passive summaries may not be detrimental. The students who wrote summaries seemed to get bored doing a summary every singles class. Perhaps some creative alternatives to summaries could be interspersed to reduce the boredom. For example, in one class students might be asked to write a summary of the lecture, in another to write a letter to Dr. Freud discussing his theory of personality, in a third class to discuss the pros and cons of the various therapies discussed in class, etc.

In future studies we plan to conduct, efforts will be made to take account of the weaknesses in the study discussed here. Fifteen full minutes of classtime will be allotted for summaries, and this will be done in each class section except those sessions in which tests are given. Feedback will be provided, either through peer evaluations (students exchange written summaries and comment on them) or by having the instructor read and comment on summaries. In addition to summaries, other written exercises will be used, for eg., write definitions of designated terms, answer specific discussion questions, etc. Also, the control group will be asked to provide student-generated ORAL summaries to provide a more equivalent control condition.

We intend to continue our research on the effect of writing in the curriculum and remain committed to active participation, especially in the form of writing. We believe that writing is beneficial in the learning process. Future research needs to be conducted to determine what type, and how much active writing is necessary to produce a significant result.

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Teaching the Logic of Hypothesis Testing Using Computerized Sampling Experiments

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Teaching the Logic of Hypothesis Testing Using Computerized Sampling Experiments

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Students sometimes have difficulty understanding the important concepts that relate to hypothesis testing, such as the null hypothesis, the alternative hypothesis, statistical significance, statistical power, Type I error, Type II error, and the advantages and disadvantages of independent groups vs. correlated groups experimental designs. The computer program I shall describe to you is a very useful aid in communicating these important concepts to students who are studying statistics, research methods, or experimental psychology.

The research problem, which is described at the beginning of the program, is to screen a chemical food additive for possible effects on the general health and vigor of the test subjects -- laboratory rats. There are two treatment conditions: a control condition and an experimental condition. In the experimental condition the animals eat lab chow treated with the additive, whereas in the control condition the animals eat only normal lab chow. The dependent measure is running wheel activity, a common measure of general vitality in animal populations.

After reading a brief description of the research problem, the user must select which of two experimental designs he/she wishes to use to evaluate a possible effect of the food additive on activity: the independent groups design or the repeated measures design with correlated observations.

SLIDE #1: BRIEF INTRODUCTION AND SELECT EXPERIMENTAL DESIGN
SLIDE #2: DESCRIPTION OF INDEPENDENT GROUPS SCENARIO

After this selection is made, a description of the food additive experiment appears that is appropriate to the particular type of experimental design (independent vs. correlated) that the user selected. As you can see, for the first experiment I have selected the independent groups scenario.

SLIDE #3: NULL HYPOTHESIS TRUE OR FALSE

Next, the user is invited to select which of three possible conditions will govern the data selection process:

1. The null hypothesis is true. (The additive has no effect on running wheel activity. Differences among computer-generated activity scores are from chance alone).

2. The null hypothesis is not true, but the additive has only a weak effect on running wheel activity. (A small constant bias is applied to each randomly selected score that is assigned to the experimental condition).

3. The null hypothesis is not true and the additive has a strong effect on running wheel activity. (A relatively large constant bias is applied to each randomly selected score that is assigned to the experimental condition).

I selected option 1 - the null hypothesis is true.

SLIDE #4: REMINDER OF SELECTED OPTION AND A PREVIEW OF WHAT IS TO COME NEXT

Next, the user selects a sample size.

SLIDE #5: SELECT SAMPLE SIZES: I selected 20 per group

SLIDE #6: A STATEMENT OF THE NULL AND ALTERNATIVE HYPOTHESES EXPRESSED BOTH SYMBOLICALLY AND VERBALLY

SLIDE #7: A GENERAL STATEMENT OF THE DECISION RULE PLUS THE OPTION TO SELECT AN ALPHA LEVEL.

SLIDE #8: A FORMAL STATEMENT OF THE DECISION RULE WITH THE CRITICAL VALUE OF THE t STATISTIC

SLIDE #9: THE FIVE STEPS OF THE DATA ANALYSIS PHASE OF HYPOTHESIS TESTING

SLIDE #10: THE COMPUTER GENERATED DATA ($n=20$/GROUP)

The data are randomly selected from a built-in normal distribution of 500 scores. I have selected the option for the null hypothesis to be true, so both sets of data have been randomly selected from the same population. If one of the other options had been selected (weak effect or powerful effect) a constant would have been added to all the scores of the experimental group.

SLIDES 11, 12, and 13 present the computation of t

SLIDES #14 and 15: SOLUTION AND CONCLUSIONS PRESENTED IN TERMS OF THE FIVE STEPS OF HYPOTHESIS TESTING.

SLIDE #16: COMPARE COMPUTED VALUE OF t TO DECISION RULE

(Five percent of the time when the sampling experiment is done under option #1 (Ho true) the result will be a significant t value, and this opens the door to a classroom discussion of Type I error.)
The computed value of the t statistic is compared to the critical value that is called up from a built-in t table, and an interpretation is offered within the context of the problem scenario.

SLIDE #17: NEW DATA - OPTION #3 (powerful effect for independent groups experiment)

Slides #18, 19, 20, and 21: t analysis and conclusions

SLIDE #22: REPEATED MEASURES SCENARIO

The selection routine insures a correlation between the two data sets.

SLIDES #23, 24, 25, 26, 27, 28, and 29: correlated t analysis

SLIDE #30: SEE "WRONG" ANALYSIS OPTION (Same data - independent t)

SLIDES #31, 32, 33, and 34: ALTERNATIVE ANALYSIS ON SAME DATA

Numerator the same, but denominator 3.79 instead of 2.20 and $df=17$ instead of 34.

$t= -1.99$ ($df=34$) instead of $t=-3.345$ ($df=17$). Thus, the correlated analysis on the same data indicates a significant difference. When this contrasting result occurs, I use it to stress the importance of using the correct analysis and also to illustrate the increase in power that can result from removing systematic individual differences from the estimate of error, which is what the correlated analysis does.

Sometimes the opposite result occurs when viewing the wrong analysis: the independent analysis is significant and the correlated analysis is not. When this happens it is an opportune time to point out the effects of the loss of degrees of freedom in the correlated analysis.

NEW EXPERIMENT

SLIDE #35: independent t - powerful effect, but n only 10 per group

SLIDES #36 through #41: DECISION RULE AND t ANALYSIS ON THE DATA (t=1.968, df=18)

A Type II error occurred due to the small sample size. (Naturally, the lack of a significant result with n1=10 and n2=10 does not occur regularly with option #3 (powerful effect), but it occurs often enough to provide a good illustration of Type II error.

SLIDE #42: NEW DATA (n=15/group - independent) Powerful effect selected.

SLIDE #43: t=-5.04 df=28 (independent groups) t=4.17 (repeated measures) df=14. The larger sample size increased power.

SLIDE #44: NEW DATA
n=30 with slight effect (option #2)
Large sample size can provide enough power to detect slight effect.
SLIDES #45, 46, and 47 : independent t analysis
SLIDE #48: Conclusion using alpha = .05: reject Ho.
SLIDE #49: Conclusion using alpha=.01 (Same data): retain Ho
Discuss in terms of Type II error.
SLIDES #50 and 51: Same data - repeated measures analysis.
t=2.140. The t value is not significant, and this provides an opportunity to point out a disadvantage of the repeated measures (correlated) analysis, which is the loss of degrees of freedom
(df=29 instead of 58)
In summary, using this demonstration program the instructor can show that:

1. Independent groups and correlated groups experimental designs have advantages and disadvantages with respect to statistical power, and both approaches can sometimes be used to study the same problem.

2. The opportunity to view both independent and correlated analyses of the same data set (even though only one is correct within a given problem scenario) allows the students to compare the different estimates of error from the two analyses. The correlated analysis tends to be more powerful because, unlike the independent groups analysis, variation from systematic individual differences is excluded from the estimate of error. On the other hand, even when using the exact same data, the two analyses have different values for degrees of freedom and different critical values of the t statistic. In several runs through the program, using various option combinations, the student comes to see how these factors affect the relative power of the correlated and independent groups experimental designs.

3. An experimental result can be judged significant even when the null hypothesis is true (option 1). This is a Type I error and it will occur in five out of every one hundred runs when option 1 is selected.

4. There will be an occasional failure to find significance even when the data were selected using option 3 (a strong experimental effect governs the data selection). This is an instance of Type 2 error.

5. The power of a test is a function of sample size. For example, in multiple runs through the program the user will see that the weak effect (option 2) is likely to be detected only with a large sample size, and the strong effect (option 3) may be missed with a small sample size.

6. We may use the .01 rather than the .05 level of significance to decrease the risk of Type I error, but the cost is an increased risk of Type II error. For example, it is very unlikely that the weak effect (option 2) will be detected using an alpha level of .01, but you will occasionally get a significant result using alpha equal to .05.

Enhancement of an Experimental Psychology Course by the Inclusion of an Examination of Parapsychological Claims

by

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After more than a decade of college teaching, it is obvious to me that there are basically two types of Psychology courses from the students' standpoint, those they want to take and those they have to take. I am frequently called upon to teach my department's initial Experimental Psychology course. This is a required course and, as is to be expected, my enthusiasm for the subject matter is usually not shared by the students. This semester, for instance, only 4 of 43 students in two sections of Experimental indicated that they would have taken the course if it had not been required!

The problem does not appear to be with the perceived value of the class (on a 7 point scale where 1 was "not at all" and 7 was "very much" my students gave a mean rating of 6.0). Instead, the lack of enthusiasm is at least in part due to the emphasis which Experimental places upon the learning of basic skills. In this course students are taught the proper use of various statistical tests as well as how to design studies and communicate scientific findings. Unfortunately, my students did not find their statistics course to be of particular interest (mean of 4.3 on the 7 point scale), do not view themselves to be competent with computers (mean of 3.7) and, naturally, do not look forward to writing the five required papers. Clearly, there is a need to show students why they should be more enthusiastic about methodology courses. I have found that a brief examination of a Parapsychological Phenomenon can be effective for this purpose.

My students appear to be surprised when I introduce the topic of Parapsychology and they always find topics such as extrasensory perception, telepathy and precognition to be interesting. In fact, well over half of my students think that the Psychology Department should offer a course in Parapsychology! Even though I explain that I am a skeptic, this does not seem to dampen their enthusiasm, and they readily accept my challenge to demonstrate the Parapsychological Phenomenon of telepathy.

This leads to what is frequently the students' first real experience at designing an experiment. As would be expected, the initial ideas are usually not well refined. I have found, however, that it is quite easy to ask questions that lead them to design a very solid study. The result generally is a variation of the classic Pearce-Pratt experiment. The essential features of most of my classes' designs are that a "receiver" is sent to another room along with a "data recorder". Then, I shuffle cards and show one to the class. This process repeats every 30 seconds for at least 20 trials. The entire process is controlled by a stop-watch so that the "receiver" can know when to indicate a choice without any physical interaction with the members of the class. The "sent" and "received" lists are then compared and statistically analyzed using the chi square test. I have yet to get a statistically significant effect.

The question always comes up as to why other studies have worked, but not ours. I then assign an article to read which critically reviews the Pearce-Pratt experiment (pages 111-123, in Hansel, 1980) as well as two others, one quite negative concerning Parapsychological claims (Scott, 1985), the other positive (Beloff, 1985). At the next class, the students are always enthusiastic when discussing the necessity for methodologically sound procedures as well as the claim that only believers can get positive results.

Afterwards, I have the students turn to the table of random numbers in their text. They are then instructed to compare the initial 10-number sequence with the sequences which follow. Using the descriptive style frequently employed in the Parapsychological literature, I suggest that the sequences are actually not independent, and that, in fact, the most frequently found number in the first list will continue to occur at an unusually high frequency. Of course, it is expected that any particular single digit number will occur once in each 10-item sequence. Random variation ensures, however, that if enough sequences are examined, an unlikely preponderance of any chosen number is likely to occur within at least one of the sequences. It is then pointed out that if each sequence was thought of as an independent study, it is likely that only the significant 10-item list would be reported in the literature, even though an analysis which included the numbers from all of the sequences would indicate that no such relationship exists. Through this exercise, students come to a much better understanding of the consequences of making a Type I error when a series of studies are conducted, which invariably leads to a discussion of the implications for the Parapsychological as well as Psychological literatures!

As a result of these activities, I believe that my students benefit in at least five ways:

1. there is a greater enthusiasm for the course
2. the necessity of conducting methodologically sound experiments is much better understood
3. since we invariably design a better study than most of the ones which have been published, the students have a greater confidence in their ability to be successful in the course
4. there is a clearer understanding of why replicability is so important in science
5. while opinions concerning Parapsychological Phenomena frequently still differ at the end of this exercise, the students undoubtedly have a more informed view of the necessity to make a distinction between Psychology and Parapsychology.

I encourage other faculty to consider utilizing similar exercises in their methodology classes.

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Use of Videotaped Demonstrations of Significant Research in Social Psychology as a Teaching Aid*

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In teaching any course, one strives to present the material in a way that is informative, accurate, integrative and interesting. It is the last goal that many of us find most difficult to achieve. In the effort to arouse and maintain interest, one may incorporate such devices as humor, demonstrations and media into lectures. I have found that such efforts produce only marginal results or are otherwise problematic.

Jokes may not be very funny to students, or worse still, fail to effectively communicate the point they were intended to make. Demonstrations take a good deal of preparation each time one uses them and often actually don't work in front of the class. Commercially available films and videotapes, if wisely chosen, have high interest value but tend to use a large amount of precious class time relative to the amount of significant information they convey. One potential solution would be to develop and videotape a set of discrete demonstrations that could be used on an individual basis, as appropriate, throughout a course to illustrate significant research techniques, findings and concepts.

A course in Social Psychology is almost universal in any Psychology Department's under-graduate offerings and is also a part of Sociology Department curricula. Demand for this course is usually quite high because of the appeal of many of its topical themes (e.g., leadership, conformity) to both majors and nonmajors. The result is that class size is large (approximately 50 students in each section on our campus with one or two sections taught each semester) which tends to limit opportunities for using such teaching devices as small group discussion, role-playing and joint class-instructor preparation of participatory demonstrations. It was my feeling that a set of brief but well-prepared video demonstrations of some of the key research paradigms, findings and concepts in social psychology would bring to life the research summarized in texts and lecture, serve as a focal point for discussion, and communicate a good deal of information very efficiently.

Thus, I developed a 90 minute videotape that includes eight discrete demonstrations which range in length from five to 15 minutes. These demonstrations illustrate such important research topics/issues as: conformity, bystander intervention and helping behavior, normative behavior, and communicator credibility in persuasive communications. Adjunct instructional materials (an instructor's manual and examination questions) are currently under development to increase the usefulness of the videotape.

The tape includes demonstrations of the following research findings, concepts, and methods in Social Psychology:

1. Normative behavior: Two men are introduced to each other by a third person. They shake hands. The handshake is then repeated in very slow motion while a voice-over details the complex shared normative expectancies that underlie this apparently simply everyday social behavior.
2. Person perception: The classic Asch (1946) study is described while the video presents a speaker talking to an audience. Afterward, a member of the "audience" is asked to "describe" the speaker. An analysis of this "description" follows that illustrates the major conclusions of the Asch research.
3. Personal Space: Hall's (1966) interpersonal distances (intimate, personal, social and public) are illustrated and described.
4. Bystander intervention: This segment opens with a stranded motorist standing forlornly by his/her disabled car as vehicle after vehicle passes without anyone stopping to help. A voice-over explains the concept of bystander intervention/nonintervention. Next, a re-creation of the Latane' and Rodin study is presented and the results reviewed.
5. Habituation: The concept of habituation and its benefits and costs are noted. Next, a demonstration of habituation to loud noise is illustrated in the difference in reaction of a person who lives by a train track and his friend who has come to pick him up, as a train passes.
6. Conformity: The Asch (1951) group pressure situation is illustrated and then explained and discussed.
7. Obedience: The Milgram (1963) study is described, illustrated and then discussed.
8. Communicator credibility: An "average citizen type" (low credibility) delivers a 30 second persuasive message. Next, the same message is delivered by an "expert" in the field (high credibility). This is followed by a brief discussion of the concept of communicator credibility and its impact on the acceptance of persuasive influence attempts.

An instructor's manual, designed to increase the usefulness of the videotaped demonstrations, is under development. This manual will include a brief description of the material presented in each demonstration; suggestions for incorporating the demonstrations into class lectures (i.e., placement within particular topics in Social Psychology); a list of relevant readings for each demonstration; a bibliography of references for further information on the topic covered in each demonstration; and sets of objective and short answer examination items for each demonstration.

Two separate approaches to evaluation of the effectiveness of these course materials are underway. First, separate questions that address the video demonstrations will be added to our standard Psychology Department course evaluation questionnaire and employed at the end of each semester the enriched course is taught. Second, student competencies, as measured by quizzes and examinations on the material covered in the video demonstrations, will be compared between the current (Spring, 1990) semester, when the course is being taught without the supplementary materials, and the Fall, 1990 semester, when the students will have been exposed to these demonstrations.

Towards a social psychology of teaching social psychology

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Social psychology is a unique course in that the content speaks to the very processes which explain classroom behavior. Both students and instructor manage the impressions relayed to each other. They utilize self-presentation strategies, send and receive non-verbal signals and formulate (and possibly change) attitudes towards numerous classroom events. The social influence processes of conformity, compliance and obedience also take effect.

By focusing course content on the behaviors of course actors, students learn the applicability of social psychological principles to everyday life. They also learn about themselves. In this paper, I will elaborate upon this self-analytic approach. I will also report provocative findings about the student role which emerge from teaching the course in this manner. Finally, I will recommend that we use these findings to re-think the goals of the undergraduate course in social psychology.

What is a self-analytic course?

A self-analytic course differs from a traditional one in that the content is focused on the student. The term "self-analytic" is borrowed from Bales and Cohen (1979) who used this approach in teaching small group dynamics. It is consistent with the student-centered approach advocated by Rogers (1968): true learning begins with the learner; the student is at the center of his or her own education. Whitlock (1984) calls this confluent education, in that both cognition (discussion of concepts) and affect (emotional responses to the concepts) are deemed important.

Description of a self-analytic course in social psychology

Appendix A shows the overview of the course, as distributed to students on the first day of class. As stated, the self-analytic course does not include tests as a means of evaluation. Rather, students are asked to use the text and readings as resource material, to which they may refer in completing the written assignments. Descriptions of these assignments may be found in Appendices B and C.

As evident from Appendix B, each of the written exercises entails the generation and subsequent analysis of data provided by the student. Exercise 3 differs from the other two in that the data base derives from the whole class as opposed to the individual student. For this exercise, students are asked to complete SYMLOG Adjective Checklist Rating (Figure 1) for all class members, including the instructor. SYMLOG (System for the Multiple Level Observation of Groups) is a group process methodology, developed by Bales and Cohen (1979), which converts adjective ratings of group actors into schematic drawings of the interactive dynamics amongst and between these actors. Analysis of these data tell us about the social psychology of the classroom. It is student responses to this exercise which will serve as the focal point of the present paper. First, however, it is necessary to instruct the reader in the SYMLOG basics.

FIGURE 1

SYMLOG Adjective Rating Form

Your Name________________________________ Group____________________

Name of person described____________________ Circle the best choice for each item

	(0)	(1)	(2)	(3)	(4)
U....active, dominant, talks a lot	never	rarely	sometimes	often	always
UP...extroverted, outgoing, positive	never	rarely	sometimes	often	always
UPF..a purposeful democratic task leader	never	rarely	sometimes	often	always
UF...an assertive business-like manager	never	rarely	sometimes	often	always
UNF..authoritarian, controlling, disapproving	never	rarely	sometimes	often	always
UN...domineering, tough-minded, powerful	never	rarely	sometimes	often	always
UNB..provocative, egocentric, shows off	never	rarely	sometimes	often	always
UB...jokes around, expressive, dramatic	never	rarely	sometimes	often	always
UPB..entertaining, sociable, smiling, warm	never	rarely	sometimes	often	always
P....friendly, equalitarian	never	rarely	sometimes	often	always
PF...works cooperatively with others	never	rarely	sometimes	often	always
F....analytical, task-oriented, problem-solving	never	rarely	sometimes	often	always
NF...legalistic, has to be right	never	rarely	sometimes	often	always
N....unfriendly, negativistic	never	rarely	sometimes	often	always
NB...irritable, cynical, won't cooperate	never	rarely	sometimes	often	always
B....shows feelings and emotions	never	rarely	sometimes	often	always
PB...affectionate, likeable, fun to be with	never	rarely	sometimes	often	always
DP...looks up to others, appreciative, trustful	never	rarely	sometimes	often	always
DPF..gentle, willing to accept responsibility	never	rarely	sometimes	often	always
DF...obedient, works submissively	never	rarely	sometimes	often	always
DNF..self-punishing, works too hard	never	rarely	sometimes	often	always
DN...depressed, sad, resentful	never	rarely	sometimes	often	always
DNB..alienated, quits, withdraws	never	rarely	sometimes	often	always
DB...afraid to try, doubts own ability	never	rarely	sometimes	often	always
DPB..quietly happy just to be with others	never	rarely	sometimes	often	always
D....passive, introverted, says little	never	rarely	sometimes	often	always

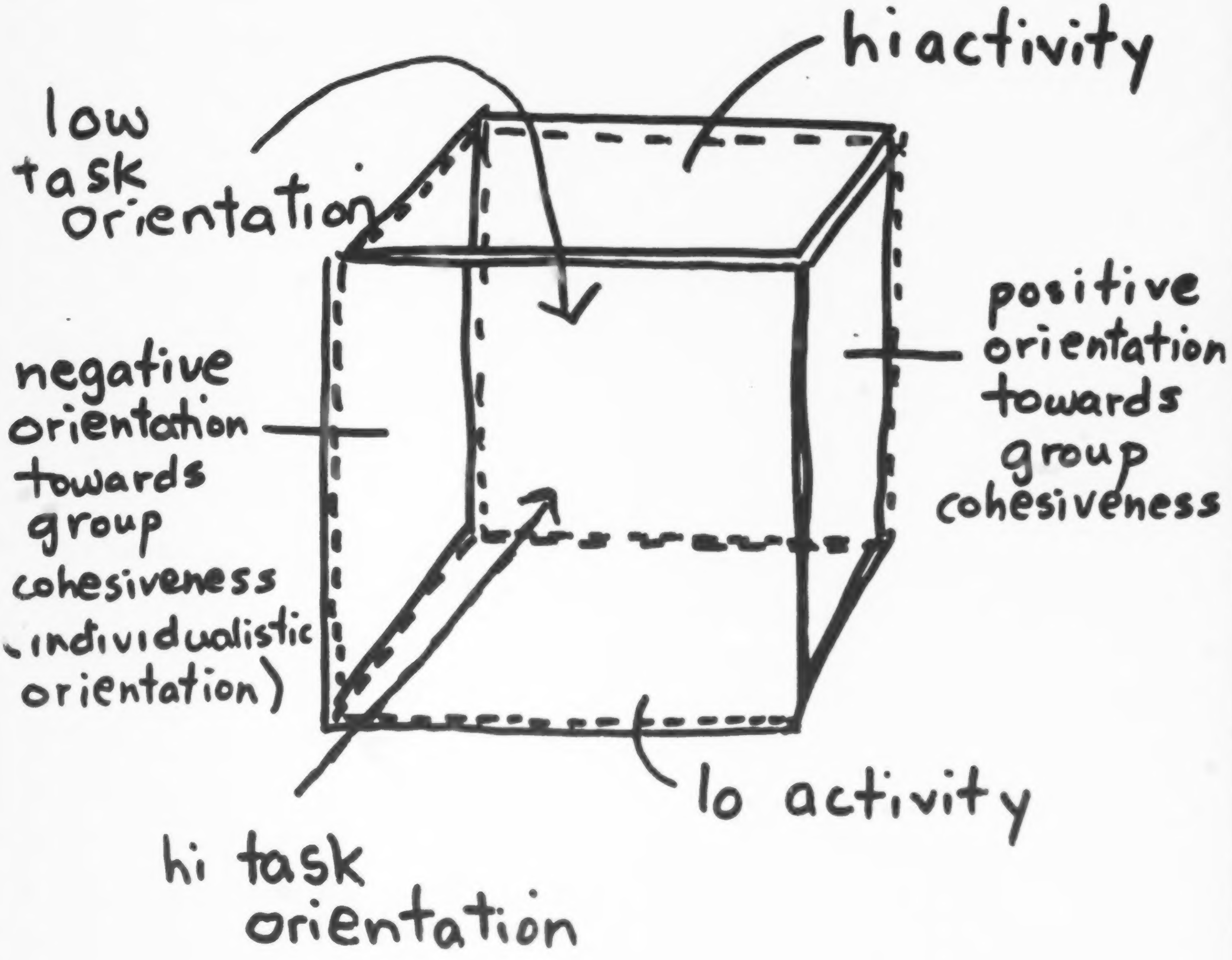
SYMLOG basics

The reader is urged to look at Figure 1 and to notice the letters which appear down the left hand column. These letters relate to the dimensions of group space, which include positive versus negative orientation towards group cohesion, instrumental task orientation versus emotional expressive orientation and dominant, controlling behavior versus passive, reactive behavior. SYMLOG conceptualizes group space as a cube, where each of the aforementioned dimensions forms the planes of the cube. (See Figure 2.) POSITIVE (P) orientation towards group cohesion is the extreme right plane; NEGATIVE (N) orientation toward group cohesion forms the extreme left plane. P-N are construed as opposing ends of a single continuum. Instrumental task orientation is the FORWARD (F) plane; emotional expressive orientation is the BACKWARD (B) plane. The most dominant, controlling behavior is on the UPWARD (U) plane, while the most passive is at the DOWNWARD (D) plane. Again, F-B and U-D are construed as opposing ends of orthogonal continua.

Returning to Figure 1, each person's behavior can be summarized using the behavioral descriptions. Some descriptions (e.g., "friendly, equalitarian" (P), "unfriendly, negativistic" (N) and "analytic, task-oriented, problem-solving" (F)) reflect behaviors related to only one dimension. However, most behaviors reflect a combination of dimensions. Thus, "extroverted, outgoing, positive" is controlled behavior

Figure 2

SYMLOG GROUP SPACE


hi activity
low task orientation
positive orientation towards group cohesiveness
negative orientation towards group cohesiveness (individualistic orientation)
lo activity
hi task orientation

A view from the BACKWARD Plane!

which pulls toward group cohesion (UP), while "domineering, tough-minded, powerful" behavior pulls away from group cohesion (UN).

Using the numerical coding across the top of the check list, one can now add up how many "U", "D", "P", "N", "F" and "B" a person receives. Remember that P-N, F-B, and U-D are understood to be opposing ends of the same continua. Thus, the number of P is subtracted from the number of N (or vice versa, if the person is seen to be more N than P), and the difference is labeled with the end of the continuum which is greater. Figure 3 shows a SYMLOG rating for a hypothetical person. Using the procedure just outlined, the sums for each of the dimensions are 23U, 9D, 19P, 13N, 19F and 11B. Subtracting the smaller from the larger end of each continuum yields the scores 14U, 6P and 8F. However, by convention, each of these scores is now halved, resulting in a summary score of 7U, 3P, 4F for this hypothetical person. This summary score may now be plotted on a two dimensional grid, as shown in Figure 4.

The P/N and F/B scores are plotted in the usual manner; a small core circle indicates the exact plot site. The degree of dominance-passivity (U/D) is represented by another circle which is inscribed around the core circle. The larger this second circle, the more dominant the actor is perceived to be; the smaller the second circle, the less dominant the actor is perceived to be. We are now ready to look at a field diagram

FIGURE 3

SYMLOG Adjective Rating Form

23U	19P	19F
9D	13N	11B
14U	6P	8F
Divided by 2 = 7U	3P	4F

Your Name______________________________ Group______________

Name of person described______________________ Circle the best choice for each item

(0) (1) (2) (3) (4)

U....active, dominant, talks a lot................never..rarely..sometimes..[✓ often]..always

UP...extroverted, outgoing, positive..............never..rarely..sometimes..often..[✓ always]

UPF..a purposeful democratic task leader..........never..rarely..[✓ sometimes]..often..always

UF...an assertive business-like manager...........never..rarely..[✓ sometimes]..often..always

UNF..authoritarian, controlling, disapproving.....never..rarely..[✓ sometimes]..often..always

UN...domineering, tough-minded, powerful..........never..rarely..sometimes..often..[✓ always]

UNB..provocative, egocentric, shows off...........never..rarely..[✓ sometimes]..often..always

UB...jokes around, expressive, dramatic...........never..rarely..[✓ sometimes]..often..always

UPB..entertaining, sociable, smiling, warm........never..rarely..[✓ sometimes]..often..always

P....friendly, equalitarian.......................never..rarely..[✓ sometimes]..often..always

PF...works cooperatively with others..............never..rarely..[✓ sometimes]..often..always

F....analytical, task-oriented, problem-solving...never..rarely..sometimes..[✓ often]..always

NF...legalistic, has to be right..................never..rarely..sometimes..[✓ often]..always

N....unfriendly, negativistic.....................never..[✓ rarely]..sometimes..often..always

NB...irritable, cynical, won't cooperate.........[✓ never]..rarely..sometimes..often..always

B....shows feelings and emotions..................never..rarely..[✓ sometimes]..often..always

PB...affectionate, likeable, fun to be with.......never..rarely..[✓ sometimes]..often..always

DP...looks up to others, appreciative, trustful...never..rarely..[✓ sometimes]..often..always

DPF..gentle, willing to accept responsibility.....never..rarely..[✓ sometimes]..often..always

DF...obedient, works submissively.................never..rarely..[✓ sometimes]..often..always

DNF..self-punishing, works too hard...............never..[✓ rarely]..sometimes..often..always

DN...depressed, sad, resentful...................[✓ never]..rarely..sometimes..often..always

DNB..alienated, quits, withdraws.................[✓ never]..rarely..sometimes..often..always

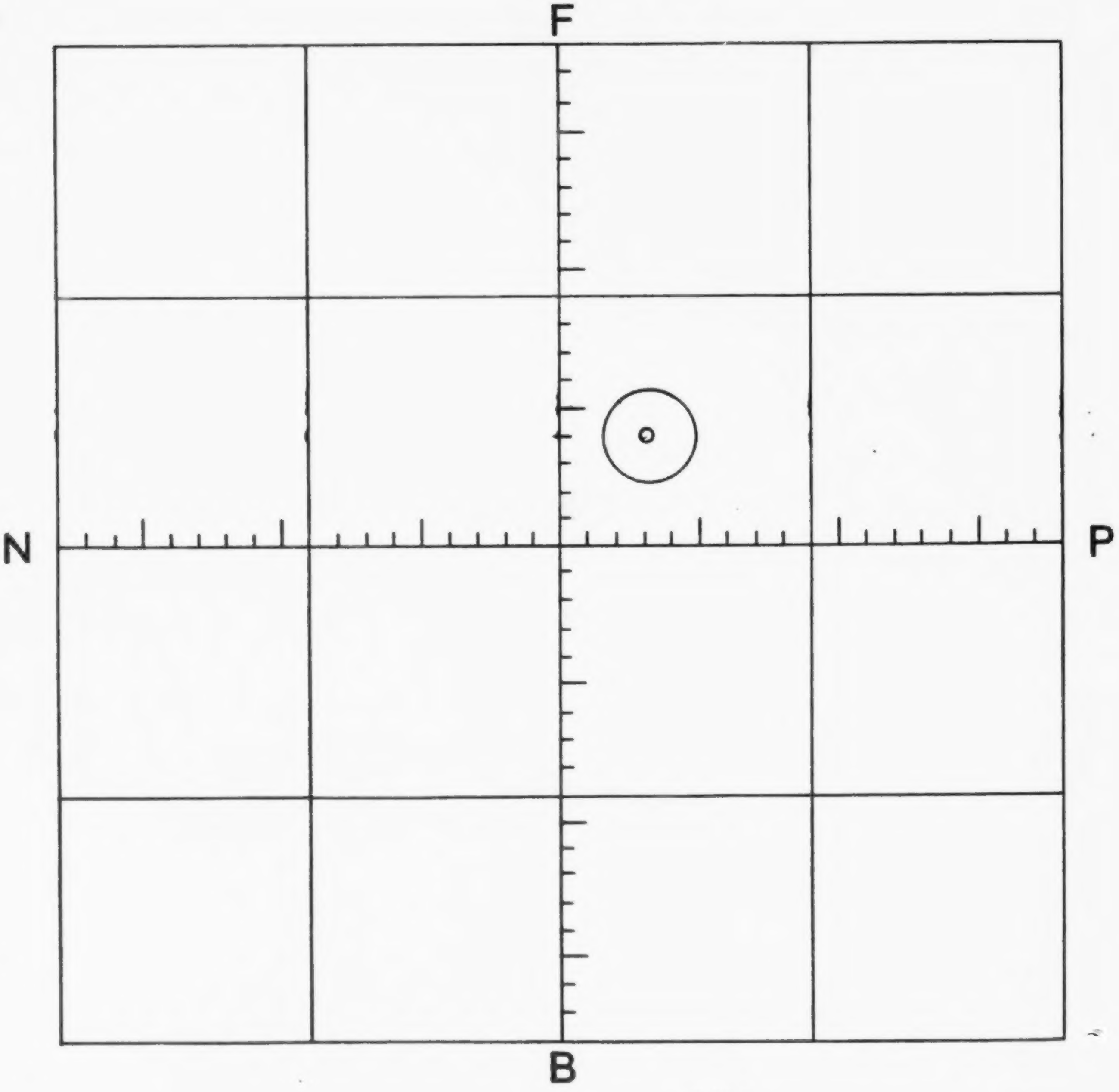
DB...afraid to try, doubts own ability...........[✓ never]..rarely..sometimes..often..always

DPB..quietly happy just to be with others.........never..[✓ rarely]..sometimes..often..always

D....passive, introverted, says little............never..[✓ rarely]..sometimes..often..always

Figure 4

SYMLOG plot of a hypothetical person



of a class.

The social psychology of the classroom, as revealed by SYMLOG

Figure 5 depicts the average field diagram of a class in social psychology. It is called an average field diagram because the plottings represent the average of all the ratings which each individual received from every member of the class. A triangle connects the three most dominant group members. In this class, the dominant triangle consisted of the instructor (me), "H" and "B".

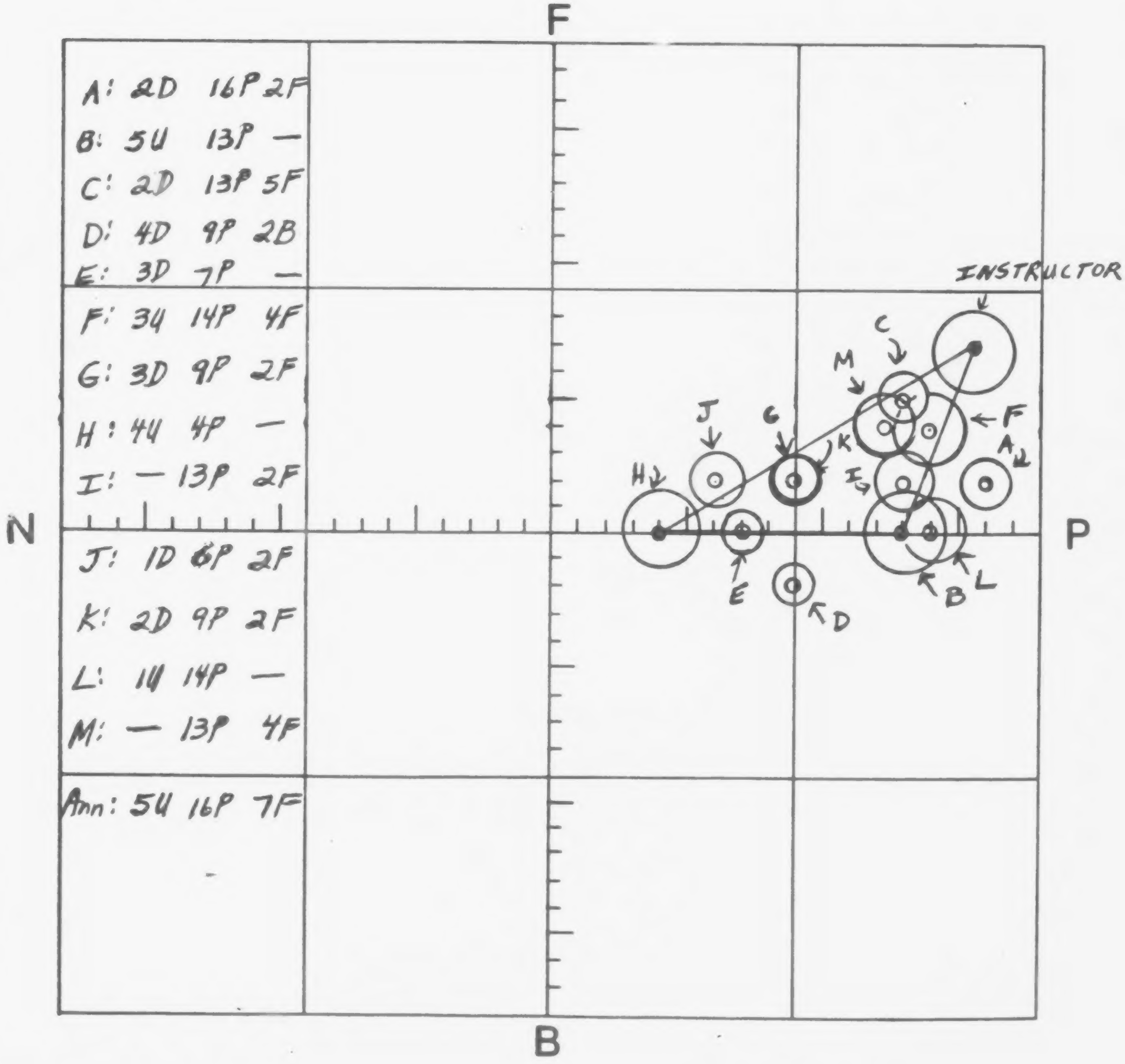
Norms and conflict in the classroom

In Figure 5, most of the images (circles representing people) rest in the PF quandrant ("works cooperatively with others"; Figure 1); some are more dominant (UPF: "purposeful democratic task leader") and some are less dominant (DPF: "gentle, willing to accept responsibility"). This is normative for classroom situations: students are expected to attend to the task; emotional displays are perceived to be inappropriate. It should be noted that BACKWARD behavior can also be interpreted as anti-task as well as emotionally expressive behavior.

SYMLOG convention (Bales & Cohen) dictates that one try to place as many images into one circle of the unification-polarization overlay (Figure 6). This is possible for the class shown in Figure 5; that is, it was perceived to be unified (cohesive). However, one may also hypothesize about the direction of the pull of each of the members of the

Figure 5

Average field diagram of a class in social psychology

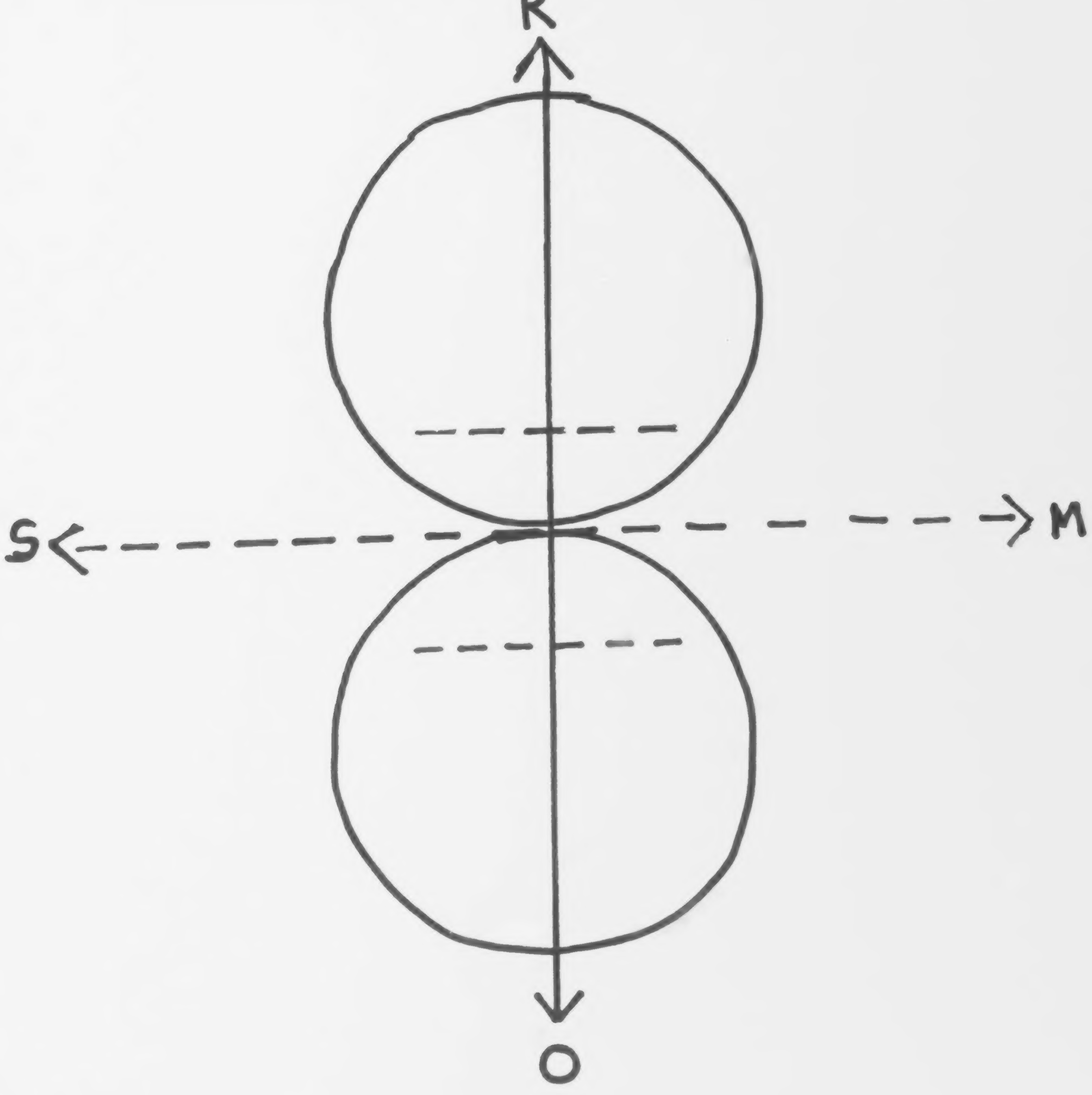

F
N
P
B
INSTRUCTOR
C
M
J
G
K
F
A
H
I
E
D
B
L

A: 2D 16P 2F
B: 5U 13P —
C: 2D 13P 5F
D: 4D 9P 2B
E: 3D 7P —
F: 3U 14P 4F
G: 3D 9P 2F
H: 4U 4P —
I: — 13P 2F
J: 1D 6P 2F
K: 2D 9P 2F
L: 1U 14P —
M: — 13P 4F

Ann: 5U 16P 7F

Figure 6

The unification-polarization overlay



dominant triangle, and project the possible polarization which would occur. In this class, H may be thought of as pulling against both the instructor and the group. Listen to what "H" writes:

> I was pulling very hard in an independent, non-class oriented fashion. ... I tended to respond to statements by the instructor or "B". Unfortunately for me, the class comparisons of me with the "all-good" instructor and the unintimidating character of "B" made me appear to have a negative impact on the class. The instructor would get on an intellectual roll and begin to transcend the cognitive abilities of the students. I would, without hesitation, interject in an attempt to slow her down to the speed of the class in order to make the lecture more enjoyable and comprehensible.

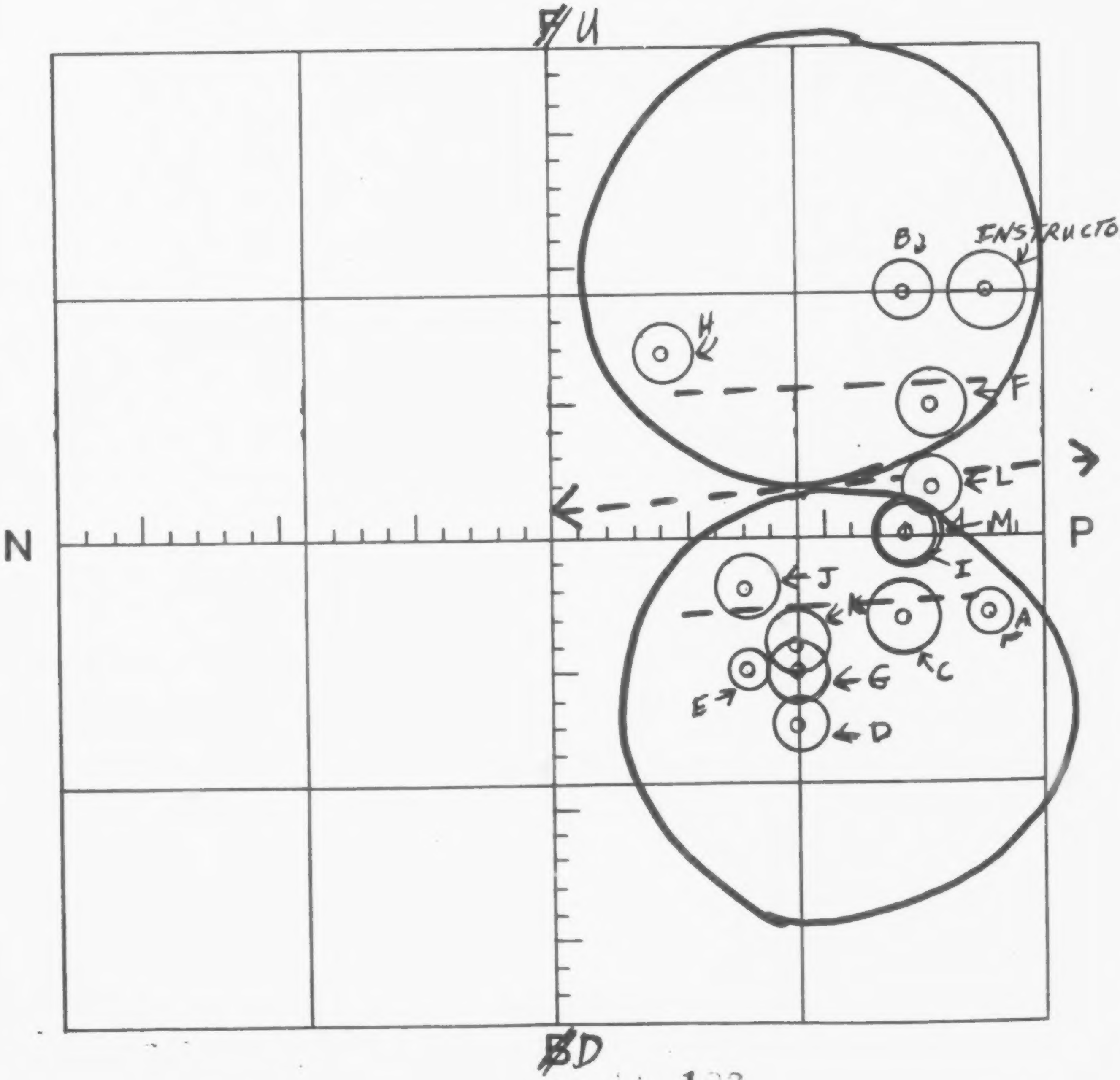
Thus, "H" interprets his actions as POSITIVE, that is really group oriented; he was trying to tell me to "come down to earth". However, the class perceived his actions as pulling away from group cohesion. "H" continues:

> Perhaps if I had waited for some other cues from classmates before responding. "B", on the other hand, was light spirited and often relieved much class tension through the use of silly comments and jokes. Due to his unintimidating character, he was not perceived as opposing the teacher or class, but rather as contributing to the smooth sailing of the class activity

Student "B" understands the group dynamics in a different way. His analysis relates to Figure 7, which shows the same class as in Figure 5, except that the U/D and F/B axes have been transposed. The SYMLOG cube (Figure 2) has now been turned on its side. Figure 7 shows a clear polarization between the active members of the class (instructor, "B" and "H", the dominant triangle) and the majority of students.

Figure 7

Average field diagram of the social psychology class with the U/D and F/B axes transposed



~~F~~ U
N
P
~~B~~ D
B
INSTRUCTOR
H
F
L
M
I
J
K
A
C
G
E
D

Hear what "B" says"

> This division into distinctly separate "camps" was responsible for a great deal of tension during group interactions ... It is my contention that this strain was caused by the polar subgroups' disparate expectations about the class process. Some viewed the period as a time to interact under a discussion format; others desired a straight lecture set-up.
>
> [Apparently] early in the semester, certain students were very active, relieving others of the responsibility and creating a norm concerning who would respond and who would remain inactive ... at times, the tension present was unbearable. In many instances, it was evident that the instructor was not going to continue until the question she had put to the class received a response.
>
> [However] the silent coalition had formed a very solid and formidable subgroup ... They were able to maintain their silence because ... they were in the majority, and thus, set the norm regarding participation (or lack thereof)... The responsibility for carrying out the functions of a discussion were readily diffused onto the instructor, "B" (me), "H", "F" and "L".

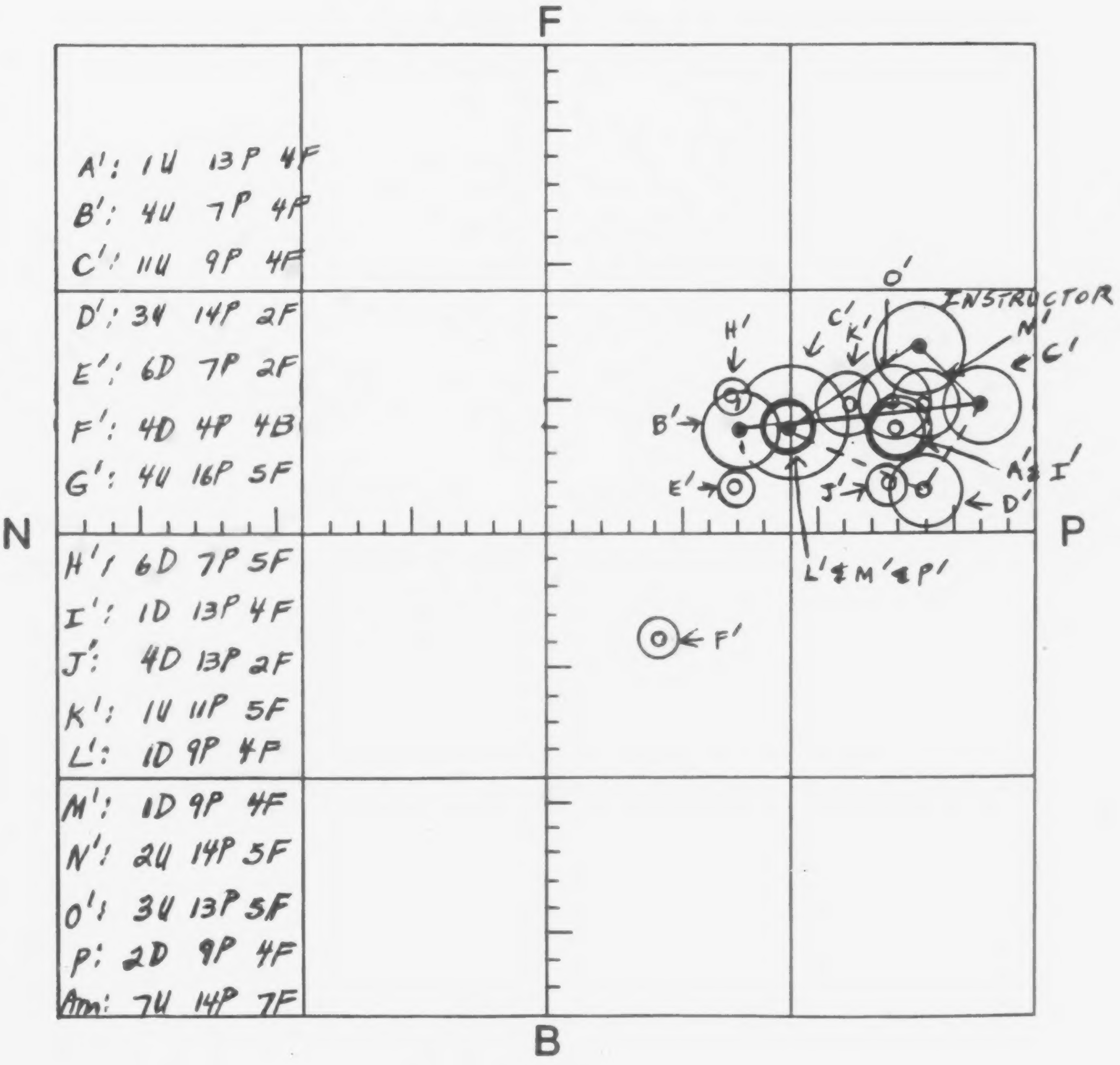
"B"'s analysis suggests that there is a student norm of non-participation, that silence is a potent strategy to be used against the instructor (authority) and that those who break the norm of silence have a dramatic effect upon classroom process. This dynamic was also present in other classes.

Ways to confront the authority of the teacher

In Figure 8, we can see that "C'" was perceived to be a member of the dominant triangle in another social psychology class. "C'" constantly questioned the assumptions of social psychological research. He was anything but a passive student. Indeed, "C'" was perceived to be even more dominant

Figure 8

Average field diagram of a second class in social psychology


F
N
P
B
A': 1U 13P 4F
B': 4U 7P 4F
C': 11U 9P 4F
D': 3U 14P 2F
E': 6D 7P 2F
F': 4D 4P 4B
G': 4U 16P 5F
H': 6D 7P 5F
I': 1D 13P 4F
J': 4D 13P 2F
K': 1U 11P 5F
L': 1D 9P 4F
M': 1D 9P 4F
N': 2U 14P 5F
O': 3U 13P 5F
P: 2D 9P 4F
Am: 7U 14P 7F
O'
INSTRUCTOR
H'
C'
K'
N'
C'
B'
E'
J'
A' & I'
D'
L' & M' & P'
F'

than me. He explains this perception by stating:

> I think that it is very unlikely that I, in actuality, take up more class space than does Ann. This perception by the class of me is not so much its objective opinion of me, but rather its perception of what I am versus what I should be as a student.... I see myself in this class as representing an attitude of rebellion again the professor. I think that the position of many other people around me might show that I have allies in this area. The role of people like us is to push the professor. I think that it is a necessary role in any class. If the prof. can stand up to the test, so to speak, then the students feel more confident in his or her abilities.

While "C'" was comfortable testing the instructor, other students experienced a lot of anxiety over his confrontational displays:

> Many social psychological processes are operating in the group. For one thing, we seem strongly bound to certain norms. There are norms of listening to other people's ideas (DPF), cohesion and cooperation (PF). The norm of listening to the instructor is the norm of obedience to authority ... in the class, we have similar values orientations except "C'". He is pulling away from the norms of cooperation and cohesion, and seems to be less fearful about breaking our group norms. ... For others, however, thinking of breaking the norms is scary, because it could result in disapproval and other negative reactions.

Another student hypothesizes that this "scary feeling" is related to lower self-esteem of the more passive students. Yet others propose that silence is a powerful tool. "H'", one of the most DOWNWARD members from Figure 8 states:

> Contrary to popular belief ... members of a group that are more passive and silent play an important role ... silence can be a sign that these individuals were trying to undermine the authority of the leader. Keeping silent is undermining because it's the opposite behavior of what is

> necessary for learning social psychology through group discussion.

Thus, while "C'" overtly confronts me, he is actually aligning himself with the authority through his involvement in the class. In contrast, the silent student is the one who asserts the greatest challenge. This is made clearer when one listens to the words of students in yet another class.

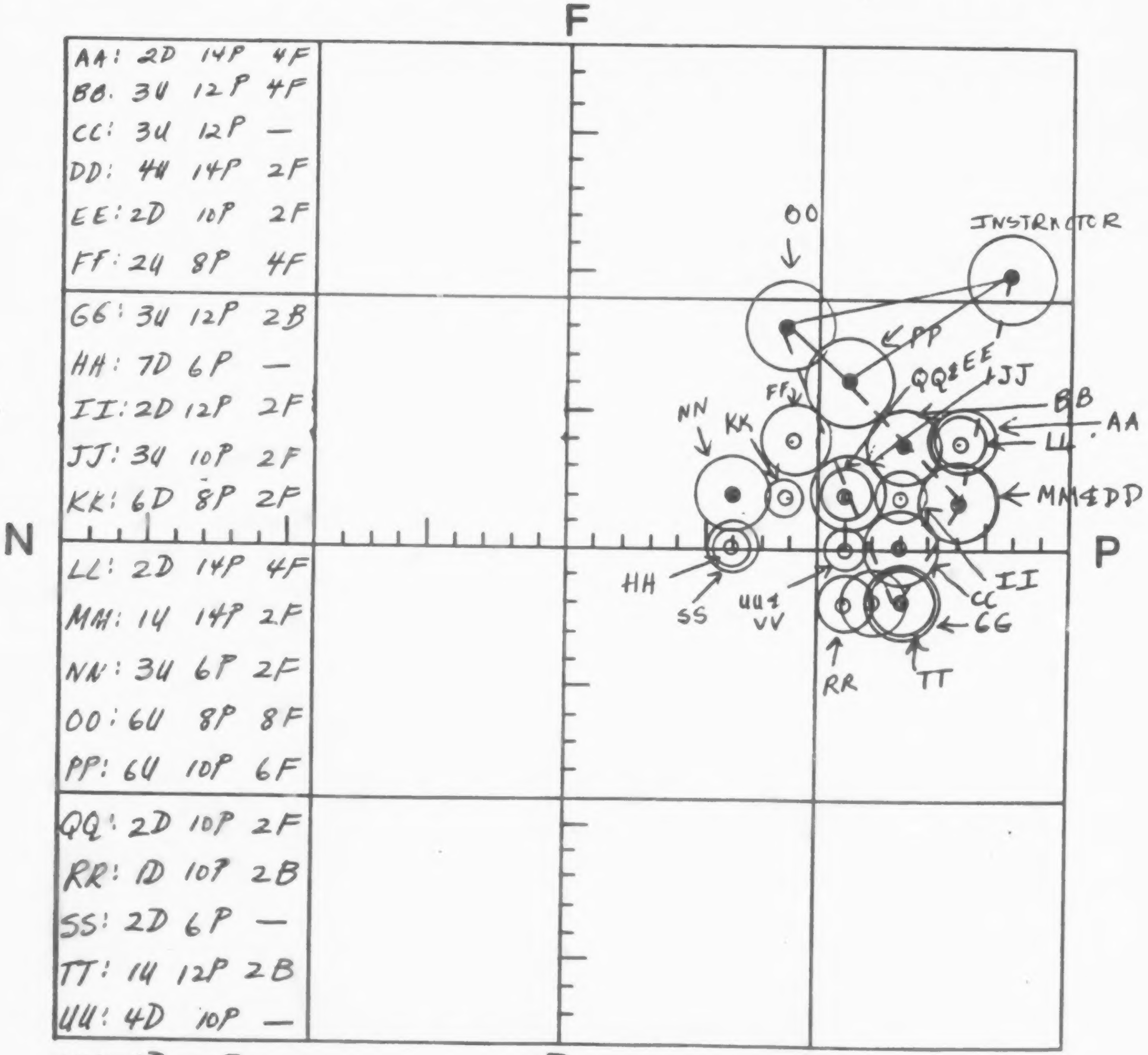
Figure 9 shows the dynamics of a social psychology class for non-psychology majors. Many students took the course because it was a requirement for their major; in general, they exhibited less commitment to the class. "GG" is not a member of the dominant triangle, but he is the student who pulls most forcefully against the task. In his analysis, "GG" designates three sub-groups of students: active participators (APs), occasional participators (OPs) and those who never participate (NPs). APs are those who usually comprise the dominant triangle. "GG" considered himself to be an OP. In his paper, he talks about his resentment of the AP's over-willingness to participate. He states that the conformity standards of the OP's are to keep low key and to remain complacent. He talks about how non-participation

> undermines the authority figure. When it became obvious that without some participation from within the group, there would be stagnation, a tool for obtaining some power was gained. In other words, members of the group would not participate just so that the class would not run smoothly.

"GG" goes on to discuss how the occasional participators like "FF", who try to imitate the AP's don't really care about the

Figure 9

Average field diagram of a non-majors section of social psychology



AA: 2D 14P 4F
BB. 3U 12P 4F
CC: 3U 12P —
DD: 4U 14P 2F
EE: 2D 10P 2F
FF: 2U 8P 4F
GG: 3U 12P 2B
HH: 7D 6P —
II: 2D 12P 2F
JJ: 3U 10P 2F
KK: 6D 8P 2F
LL: 2D 14P 4F
MM: 1U 14P 2F
NN: 3U 6P 2F
OO: 6U 8P 8F
PP: 6U 10P 6F
QQ: 2D 10P 2F
RR: 1D 10P 2B
SS: 2D 6P —
TT: 1U 12P 2B
UU: 4D 10P —
VV: 4D 10P —
Ann: 6U 16P 10F

class; they only participate in order to "brown-nose" the teacher.

"FF", who claims to be a friend to "GG" reveals the true poignancy of the conflict experienced by many students. First, he talks about "OO", one of the two most dominant students in the class:

> It's not that he's a bad guy, but people just don't seem to appreciate the student who sits up front and answers every question. He doesn't follow the norm of moderation in class participation. He is labeled a "brown-noser" and thought of as a "jerk." I like "OO", probably because I live near him and know him better than most. But it seems that in our society, it is socially unacceptable to openly make an effort to excel in academics or actively participate in class.

Clearly, "OO" is not a model for "FF". What then does "FF" think of "GG"?

> His attitude and behavior (verbal and non-verbal) made him an important individual who pulled others away from positive leaders. He showed an obvious lack of concern and flagrant disregard for the class ... I don't mean to be so hard on "GG". He is a good friend of mine, but sometimes I feel like he just doesn't belong in college.

So "GG" is not a model either. "FF" seems to be caught, unable to find the "proper" student image. He concludes his paper by stating:

> Our class was different from most others in that it didn't just focus on the teacher and what she said, but included perceptions of what was going on inside the classroom itself. I guess this has to do largely with the material which made us think about our daily socialization and interaction processes and the motives behind them. Most people realize many of these things, but do not consciously dwell on them.

And that's just the point of the present paper. There is a lot that is going on in the classroom besides the mere imparting of information.

Conclusion

The dynamics which have been described are not peculiar to courses in social psychology. I maintain that they occur in all classes. Students come with a pre-existing attitude about their own education. They are aware of the repertoire of roles open to them, and they face a subsequent choice about which "image" they will project to both the instructor and their peers. In most classes, a discussion of these dynamics is outside the realm of the course. However, this is not the case in social psychology. Students live (within the classroom) the very concepts which comprise the course. This presents a wonderful opportunity to get students to examine their own motivations.

The ultimate question is what do we want our students to learn? If we only wish to familiarize them with social psychological theory and method, then what I have been discussing is irrelevant. However, if we want to facilitate authentic learning, as defined by Whitlock and Rogers, then we have to provide them with opportunities to personalize social psychological theory. I, for one, vote for authentic learning.

I am the first to admit that teaching in this way is risky and anxiety producing. It is not always easy to hear what students are really thinking and feeling. It decreases the social distance between student and teacher. This, in turn, may entail the relinquishing of some of the teacher's "professorial prerogative" to declare a conversation over or certain material out-of-bounds. Teachers may be asked to self-disclose about their understandings of course material. For example, how does the teacher understand the authority position? Why do we proceed in specific ways in the classroom; is it because we really believe in the norms of the classroom? or is it just that that's the way it's always been? are we "normative dopes", to use Garfinkel's term (1964)? Have we ever really thought about it? How does the teacher chose to project a given image to his or her students?, etc. The willingness to answer such questions implies a mutual encounter between student and teacher. It also implies that as we struggle with these questions (and answers), teaching becomes a vehicle for personal growth.

Clearly to teach in such a manner requires small classes and the willingness to devote a considerable amount of time and energy to one course. With the spectre of "publish or perish" hanging over many of our heads, this may not be possible. However, I believe that there is some way in which each of us can draw upon some segment of the social psychological literature to teach social psychology. Both we and our students have much to gain by doing so.

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Appendix A

Overview of a self-analytic course in social psychology

The purpose of this course is to introduce the student to theories, applications and methods of social psychology. In addition, since we all live in a variety of social contexts, it is hoped that the student will learn something about himself/herself vis-a-vis these social contexts.

My philosophy of education includes three dictums: (1) Both students and instructor enjoy the course more when students are active participants and accept some of the responsibilily for making the course work. Thus, students will be required to participate in one group presentation and to participate in class discussions throughout the semester; (2) Learning is facilitated by connecting the theoretical material with students' personal growth. Therefore, we will use ourselves as case studies (both as individuals and as a group) in a number of instances; (3) Several short written assignments facilitate students' mastery of course material just as well as one long term paper with periodic tests. Therefore, there are no tests, but 3 short written exercises plus worksheets to be completed throughout the semester.

Appendix B

Instructions for written exercises

Exercise 1

This short paper focuses on an analysis of *your* own style of presentation. The analysis should be based on textbook reading, supplementary readings, classroom discussions and presentations. Some relevant concepts you may wish to discuss: self-concept; self-schemas; self-image; impression management; "looking glass" self; objective self-awareness; self-esteem; social comparison; stigmatization; self-disclosure; de-individuation; locus of control; learned helplessness; self-handicapping and self-monitoring.

Exercise 2

This short paper focuses on an analysis of a 3 day journal, in which you will keep track of your own affiliation patterns. Some issues you may wish to address in your paper include: With whom did you spend most of your time? Which theoretical perspective on affiliation would explain this? How did you feel about the time spent alone? Again, which theoretical perspective would explain this? How about attraction ... did you affiliate with the people to whom you are the most attracted ... how would you explain your answer?

Exercise 3

The study of groups and leadership can be used as a summary of many of the subtopics which we have studied throughout the semester: norms (and norm breaking); obedience (and confronting authority); self-presentation; verbal and non-verbal communication; attitudes (especially if one views every position in group space as representing a specific attitude/orientation towards self and others in the group); helping behaviors (e.g. cooperative efforts) and affiliation (clustering of people in a group).

Your assignment is to analyze the class as a group. Any of the concepts mentioned above are relevant. Some approaches that have been taken in previous years include focusing on a particular student's role in the group; comparing and contrasting individual perceptions with group perceptions; exploring the conflict between formal authority and peer authorities; looking at the group as a system.

Appendix C

Instructions for worksheets

---

1. What are the major tenets of Gilligan's theory? What are the implications of her theory for social psychology? (Due date 9/19)

2. How would you classify Zelig, according to Snyder's Self-Monitoring Scale? Why? How do the five factors of the scale explain his extreme behavior? Give an example for each factor. (Due date 9/24)

* 3. Using the hand-out on the generation of personal constructs (Kelly's REP test), discover your own personal constructs. What are they? How do they affect the way in which you perceive others? Be as specific as possible. (Due date 10/3)

* 4. Discuss how your perceptions of the characters in The bluest eye support or refute the theories of person perception reviewed in the text. Please be specific. (Due date 10/15)

* 5. Using the non-verbal coding categories developed in class, observe 30 minutes of a class session (you will be assigned to a specific class session). Keep careful notes of what you observe. Then write a short review of what you have learned about our class process. (Due 2 weeks after your observation date.)

6. Using the non-verbal coding categories developed in class, find two different social environments and observe the verbal and non-verbal interactions of people in those environments. Write a summary of what you have learned about those environments and the actors in them. Make sure to refer back to theory. (Due data 11/3)

* 7. Describe a recent experience which you have had with attitude change (either you attempting to change someone else's attitude or you being the object of the attitude change attempt). Was the attempt successful? Why or why not? Make sure to refer to the theoretical perspectives on attitude change discussed in class and/or text. (Due 11/15)

* 8. Break a social norm.
Describe the norm you have broken.
What was your emotional response to breaking the norm?
How did others respond to you?
How does this "experiment" support the literature discussed on normative behavior and morality? Be sure to specifically refer to this literature...text, Garfinkel, Milgram & Sabini, Sabini & Silver. (Due date 11/26)

9. Describe an incident where someone was victimized. This could be yourself, someone you know, or someone your read about (in the newspaper) or heard about on t.v. How did this person's reactions support or refute the literature read on coping with victimization? Again, please be specific. (Due date 12/4)

10. Write a short essay (no longer than a page) summarizing how we can utilize social psychological theory to enhance pro-social behavior in our society. (Due 12/10)

* Signifies a self-analytic exercise.

SEXUAL HARASSMENT: AN EDUCATIONAL PROGRAM

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ABSTRACT

Literature indicates that sexual harassment on college campuses is strongly implicated in the appearance of clinically significant symptoms in younger women and can pose a serious threat to their career development. The responsibility of academic institutions goes beyond the legal requirements of ensuring due process in cases of sexual harassment grievances. There is a professional responsibility for providing educational opportunities that raise awareness, minimize potential consequences and encourage proactive measures within the institutions community to combat the serious problem of sexual harassment. Academic advisors can play a very positive role in this respect.

An educational program which was implemented at Philadelphia College of Pharmacy & Science is described and implications for advisors of findings from evaluative data are discussed.

SEXUAL HARASSMENT: AN EDUCATIONAL PROGRAM

INTRODUCTION

Sexual Harassment is not a "new" problem in educational settings. What is "new" (i.e. in the last decade) are the changing social and legal perceptions. What was once more likely to be treated as harmless flirtation is now illegal under federal gender discrimination laws.

Title IX, the principal federal law which prohibits sex discrimination in education, has undergone many trials and tribulations since its passage in 1972 in terms of its application in various cases. (Most notably, the 1984 Grove City College v. Bell decision by the Supreme Court imposed a severe curtailment.) The passage in 1988 of the Civil Rights Restoration Act restored Title IX's powers and the time is ripe for educational institutions to be more conscientious and vigilant in the application of the Act on our campuses. (NAWDAC, 1988)

One of the problems in dealing with allegations of sexual harassment is that of defining what constitutes 'harassment' versus 'normal' behavior between sexes (Somers, 1982). The most common characteristics associated with sexual harassment are found in the following definition by MacKinnon (1979):

> "Sexual Harassment is the unwanted imposition of sexual requirements in the context of a relationship of unequal power." (p.1)

In academic settings, the emphasis on unequal power between the perpetrator and victim is most important. Many behaviors which may be construed as harassing are not intrinsically harassing within relationships of equal power. In relationships of unequal power, it is often the case that the offended individual is hesitant to reveal the behavior or take any action because of fear of reprisal.

As more awareness of the implications of sexual harassment on campuses develops (not to mention increasing numbers of lawsuits), so does the interest in and need for addressing, preferably preventing, or at least minimizing the problem. The most effective means by which institutions may do so is two-fold: First, a policy and grievance procedure which specifically addresses sexual harassment should be instituted. Second, a comprehensive program should be implemented which seeks to educate students, faculty and staff as to what sexual harassment is, its illegal nature, and where and how complaints should be processed. It is worthy of note that, failure to have such a procedure in place and a specific person designated to handle such complaints is a violation of Title IX. (NAWDAC, 1989)

COMPARATIVE STUDIES

Sexual harassment is a problem at all levels. Relatively few major investigations of sexual harassment among college students have been conducted and they are not consistent in their definitions, categories and methodologies. Comparisons, therefore, are limited. In the most frequently reported studies, the aspects of sexual harassment most commonly referred to include: definitions and descriptions of sexual harassment (Benson and Thomson, 1982); effects of harassment on female victims' educational opportunities (Maihoff and Forrest, 1983) and coping mechanisms used by victims (Adams, et. al., 1983); legal issues and institutional policies (Metha and Nigg, 1983, Munich, 1978, Padgitt and Padgitt, 1986, Project on the Status & Education of Women, 1978, 1980, 1981, and Simon and Forrest, 1983.)

THE ROLE OF STUDENT ADVISORS

The advisor is very often the first person a student might go to when s/he feels any discomfort about experiences such as sexual harassment, even if they may not initially identify it as such. A perceptive advisor is also likely to be one of the first people to recognize changes of behavior in the advisee which may be associated with sexual harassment. It is therefore, incumbent upon the advising director to ensure that advisors are aware of, knowledgeable about, and sensitive to the issue of sexual harassment. They should especially be familiar with their institutional policy and procedure so as to advise students appropriately.

The purpose of this paper is to provide a relatively simplistic outline of a model educational program designed to provide the information referred to above to a college/university campus community. The model was designed and implemented by the authors at the Philadelphia College of Pharmacy & Science. (Student body-1550, full-time faculty-125, staff-). It was used as a component of the training program for advisors at the College. Preliminary data were collected from the entire college community and the findings were incorporated into the educational program design (Bremer, Moore, Bildersee, 1989). Evaluative data were collected from participants after the program had been conducted at the College and are referred to in the 'Discussion' section of this paper.

DEVELOPMENT OF A SEXUAL HARASSMENT EDUCATIONAL PROGRAM

After developing a newly established institutional policy on Sexual Harassment, the president's office at the Philadelphia College of Pharmacy and Science sought the advice of the department of Social Sciences with regard to a procedure to educate the college community in this matter. Three faculty members (2 psychologists and 1 sociologist) in this department agreed to collaborate on the project. Administrative commitment to and support of the undertaking were established from the outset. It was agreed that the program would be presented to the college community as a joint venture by the President's Office and the department of Social Science.

The procedure implemented was as follows:

1. A literature search on the subject was made.
2. A preliminary pilot study was conducted to examine the validity of the commonly accepted measure of sexual harassment: feelings of discomfort, embarrassment, insult and/or fear resulting from the display of unwelcome behavior by another. Reports of feelings of discomfort, embarrassment and/or fear were compared with perceptions of whether the target behaviors were considered indicative of harassment by those reporting the feelings.

3. From the above pilot study, a two page questionnaire (appendix #-1) was developed and administered to 532 students, and 86 employees of whom 46 were faculty, 20 were administrators and 20 were support staff. (69.3% of the students and 59.0% of the employees were female.)

4. A 3-phase educational program was developed and implemented over a period of approximately six weeks. The program consisted of 3x2 hour sessions to which the entire college community was invited. A structural outline of the program follows.

STRUCTURE OF PROGRAM

SESSION 1: WHAT IS SEXUAL HARASSMENT?

PURPOSE:
1. To provide information on the incidence and potential consequences of sexual harassment.
2. To increase understanding and awareness of the problem.
3. To keep the magnitude and seriousness of sexual harassment within a realistic perspective.

The material used for this session was based on (1) information detained from literature, and (2) the results of the survey conducted on the campus prior to the implementation of the program. A speaker presented information that clarified the definition of sexual harassment (Benson & Thomson, 1982) and highlighted the significant points of information, including:

- the prevalence of sexual harassment on college campuses and in the workplace (Fitzgerald et al, 1988, Roscoe et al, _____);
- the association between relative power, minority status and the incidence of sexual harassment (Fain & Anderton, 1987);
- the potential threat of sexual harassment to career development and course selection in college women (Fitzgerald et al, 1988, Maihoff & Forrest, 1983).

The results of the college survey were presented to the audience and used as a basis for discussion of the significance of sexual harassment on the campus of Philadelphia College of Pharmacy & Science. (Bremer et al, 1990). Audience participation in the discussion was strangely encouraged.

SESSION II: WHAT DO I DO IF SEXUALLY HARASSED?

PURPOSE:

1. To familiarize the community with college policy and procedure regarding sexual harassment.
2. To identify people on campus trained to assist with problems related to sexual harassment in order to encourage communications.

The format of the session was as follows:

1. The President of the college addressed the audience on "Sexual Harassment . . . The Administrations View". (Appendix #2).
2. The College Personnel Officer addressed the audience on "What you might do informally and, if necessary, formally if you believe you've been sexually harassed."
3. A representative from the college counseling office addressed the audience on: "Potential Psychological Consequences of Sexual Harassment and What Can Be Done to Cope."

SESSION III: A PROACTIVE APPROACH TO SEXUAL HARASSMENT - ASSERTIVE BEHAVIOR

PURPOSE: TO DEVELOP COPING STRATEGIES, BEHAVIORS AND TECHNIQUES.

The focus of this session was on assertive behavior training and the format was that of a workshop. The following activities were implemented:

1. The Rathus Assertiveness Schedule (Rathus, 1973) was administered and scored.
2. Workshop leaders demonstrated (through vignettes) examples of non-assertive, aggressive and assertive behaviors.
3. Participants identified, from the above demonstrations, the verbal and non-verbal behaviors that characterized each style.
4. Assertive behavior was defined as -"standing up for personal rights and expressing thoughts, feelings and beliefs in honest and appropriate ways which do not violate another person's right" - (Lange & Gakubowski, 1978).
5. A discussion was held on reasons for non-assertion (e.g. mistaking firm assertion for aggression; fear of hurting other's feelings; negating one's own feelings), and for aggression (e.g. feelings/perceptions of powerlessness and or threat; a behavioral pattern of non-assertion which allows a build up of emotions that then "explode"; etc.)

6. The advantages of assertion (e.g. increased control over oneself; self-confidence; potential for mutually satisfying relationships) as well as the risks (e.g. not always getting what you want; exposing vulnerability) were also discussed.

7. Participants were then given an opportunity to practice, in small groups, assertive responses to potential sexual harassment situations. Volunteers have some of the small groups then role played a situation which was observed and discussed by all participants. (Appendix #3) (Scenarios)

DISCUSSION

EVALUATIVE DATA

After the program was completed, an assessment was made of the impact thereof. In addition to the program participants, a sample of 100 students who did not attend the program sessions was asked to complete a questionnaire regarding their knowledge of sexual harassment (Appendix #4). The results indicated that there was a general awareness of what forms of sexual harassment were most prevalent on campus and a basic knowledge of what constitutes sexual harassment. A disturbing finding was that an overwhelming majority of the students did not know the reporting channels set up at the college. Specifically, in response to the question "To whom would you go to lodge an official complaint?", very few students answered in accordance with the official college policy, i.e. the Director of Personnel. Despite the fact that the college policy on sexual harassment was discussed during the program and is printed in the Student Handbook, some students answered the question by saying they would go to the college counselor, dean of students or a trusted professor. Many of the students indicated they would go to their academic advisor.

It appears that students' perceptions of the most logical procedure for them to follow is inconsistent with the official procedure. This suggests that in matters of distress such as that associated with sexual harassment, students are likely to pursue a course of action which provides a measure of trust based on their familiarity with and trust in an individual. Very few students have reason for direct contact with the Director of Personnel regarding any personal matter, so it is quite understandable that they would choose someone were familiar to them in initially reporting a sexual harassment incident. What is of particular interest is that these responses were not in answer to a question which asked students to whom they would choose to go. It was based on knowledge of an official procedure.

IMPLICATIONS FOR STUDENT ADVISORS:

Sexual harassment on campuses of academic institutions is a relatively frequent occurrence (Adams, et al 1983, Benson & Thamson, 1982; Dzeich & Weiner, 1984, Hughes and Sandler, 1986, Lott et al 1982, Maihoff & Forrest 1983, McCormack 1985).

As the concept and practice of academic advising becomes more comprehensive in terms of the "whole" student, the advisor's vote becomes more prominent in the prevention and detection of sexual harassment. The personal nature of the advising relationship increases the potential for dissemination of information concerning sexual harassment as a means of preventing its occurrence. Knowledge of and sensitivity to its effects on students enables the advisor to be of greatest assistance to sexual harassment victims.

Implications for academic advising programs then include the responsibility of providing training for advisors which acknowledges the potential serious impediment to the educative process of the experience of sexual harassment. While it is the responsibility of academic institution administrations to provide and enforce due process in the event of sexual harassment, the advisor/advisee relationship provides an excellent opportunity to minimize the occurrence, as well as the potentially drastic consequences, of sexual harassment on its victims, perpetrators and even on the institution itself.

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Role-Playing Exercises for Teaching Research Ethics

Ethics has become an increasingly important topic in Experimental Psychology courses. In an effort to increase student awareness of this topic I have incorporated two role-playing exercises into my courses. In one exercise the students are asked to act as prospective research subjects and evaluate information provided by the researcher concerning informed consent. In the second exercise students role-play being members of an Institutional Review Board (IRB) and make decisions involving controversial research. These exercises result in more active participation and a better understanding of research ethics.

The first exercise is used to introduce students to the major elements of informed consent. They are given a sample consent form, written summaries of two experiments, and two questionnaires (developed in conjunction with Sam J. Korn). They are instructed to read each summary as if they were potential subjects and then fill out the questionnaires anonymously. These questionnaires evaluate whether the researcher provided enough information so that the subjects could make an informed decision before consenting to participate. Nine aspects of informed consent are covered in each questionnaire, e.g., whether the subject was informed that s/he could withdraw from the experiment at any time. These elements are included in most undergraduate experimental psychology textbooks in the section on ethics and informed consent. Other sources such as Grundner (1986) provide more detailed information. After the questionnaires are completed there is a discussion which focuses on a number of questions including, "What information would you add to better inform subjects?" The instructions, summaries and questionnaires are appended.

In the second exercise students are asked to make decisions while they role-play being a member of an Institutional Review Board. This exercise is based on "Dear Mrs. X..." which involved research determining the efficacy of non-relative bone marrow donations to leukemia patients. (Specific references for the case which is discussed in the July/August issue of IRB are listed below.) In this case the confidentiality rights of a potential donor were in opposition to a research patient's wish to have a potentially life-saving procedure. One leukemia patient who called the medical center inadvertently learned that hospital files of tissue typing indicated there was a potential match. The leukemia patient petitioned the IRB to contact the potential match. Without stating that a match had already been made, the letter sent by the IRB asked if the individual would like to be considered for the research project. When the letter was not answered a phone call was made restating the general request. The leukemia patient then asked the IRB to make a third request and state that there was a specific recipient. At this point the students are asked to discuss whether the potential donor should be contacted a third time. This usually results in a lively discussion which ends with a vote by the "student IRB". Students are then given additional information and asked to vote again. First they are told that at the time of this research project only 2-3% of patients responded to non-relative bone marrow. Next the students are then told that Mrs. X's tissue type was on file because she had been typed to donate marrow to her son who later died. This leads to a discussion of whether IRB decisions should depend on general principles or specific cases.

Together these exercises give the students an opportunity to see the dilemmas and difficulties that can arise when considering ethical issues, e.g., combining ethics and good research design. After these exercises students usually have a broader perspective and better understanding of the views of all concerned: the researcher, the subject and the IRB member.

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The publication *IRB* is available from:
The Hastings Center
Institute of Society, Ethics and the Life Sciences
360 Broadway
Hastings-on-Hudson, NY 10706

Appendix A

SUBJECT CONSENT FORM

Principal Investigator: Terry Malcolm
Project: Evaluation of understanding the elements of informed consent.

===

For those participating:

I acknowledge that on December 9th, 1988, I was informed by Dr. Malcolm of a research project on the evaluation of information presented to potential research subjects regarding informed consent.

I was told of the possible risks involved, the procedures involved, and the expected benefits from participation in this study.

For this particular study there are:

No risks.
Expected benefit is better understanding of research ethics.
Data will be collected anonymously.
Participation is voluntary and there is no penalty for not participating.
Basic procedure consists of reading two summaries and evaluating the information relating to informed consent using questionnaires.

I am fully aware of the nature and extent of my participation in this project and the possible risks. I hereby agree, with full knowledge of the above, to participate. I also understand that I may withdraw from the project at any time.

____ Date______________
Signature of Subject

____
Printed Name of Subject

===

For those not participating:

I have chosen not to participate in the above study. While I will not be filling out the questionnaire, I understand that I will be expected to read the summaries and questionnaires for the today's class discussion.

____ Date______________
Signature of Subject

____
Printed Name of Subject

My reason for not participating is (you need not complete this part):

____

DETACH AND FOLD THIS SHEET IN HALF WHEN COMPLETED. THESE FORMS WILL BE SEALED IN AN ENVELOPE UNTIL AFTER GRADES HAVE BEEN SUBMITTED.

Appendix B

INSTRUCTIONS

Today we will be discussing ethics in research. Before we begin I would like to find out how you as a student would evaluate a request from myself or one of your other instructors to participate in his or her research study. Imagine that your instructor has asked you to participate in the research summarized on the page 2. Read the information about the research and them complete the form on the third page. As you can see from a sample form (held in hand) you will be asked whether you thought the summary contained enough information for the student to make an informed decision. For each statement mark yes, no or not sure. You may add comments after each statement or add general comments if you wish. To help me in designing this research please underline any words or phrases that are not clear to you. When you have finished pages 2 and 3 for the first summary please go to pages 4 and 5 for the second summary.

Since this is part of a study on informed consent it is only appropriate that you have an opportunity to participate or not as you wish. The study is anonymous and I will not know who participates and who does not. You may withdraw at any time. Participation will not affect your grade. There is no risk involved. The benefit, I hope, is that you will have a better understanding of research participation and ethical issues. The studies you read about as part of this experiment, as well as your responses, will be discussed in today's lecture. Therefore, even if you do not wish to participate in the study I expect you to read the summaries and questionnaire as part of today's assignment. Page one outlines the study and contains a consent form. Sign the top half if you are participating or the bottom half if you are not participating. Then tear off that sheet, fold it in half. I will collect the consent forms separately from the summaries and questionnaires and place them in a sealed envelope until after grades have been submitted.

Do you have any questions?

Appendix C

RESEARCH SUMMARIES

SITUATION 1

Your psychology teacher announced that a paid, part-time job was available to students who wanted to work as research assistants. When the applicants for the job arrived for their appointments, they were told that it was an experiment and not a job interview. Each student who agreed to participate as a subject in the experiment was paid $5.00 for the time spent - about one hour.

SITUATION 2

A week after the first exam in the course, the instructor gave out false exam scores to you and your classmates - half of the students were given very high scores (90-100) and half were given very low scores (40-55). The instructor also explained that in the past these exam scores were highly correlated with IQ and were good indications of the grade point average (GPA) that students were likely to achieve. The instructor then administered a survey of social attitudes which you and your classmates had to complete. After these were collected, the instructor explained that this was really a study on the effects of "success" and "failure" on social attitudes, and that the exam scores that had been given out were really false - just part of the experiment. The instructor explained that the true purpose of the experiment could not be given at the start because it would have spoiled the experiment. The real exam scores were then distributed to you and your classmates.

SITUATION 3

At the beginning of your Psychology class, your instructor announced that he was doing research on memorization. Your and your classmates were not required to participate, and could withdraw at any time. Participation would not affect grades. The task involved was not complex, and no risks were involved. It was simply a memory study which was going to compare the rate of learning for two types of word lists. Those of you who chose to participate were asked to sign a consent form that described the experiment and outlined the rights of those who participated. Appointments for research participation were made. For the research the participants were given an "answer sheet", and were told not to include their names. After the instructor read the instructions, you and your classmates were asked if there were any questions about the procedure. Participants were then read a series of word lists which they were to remember and record on the answer sheet. At the end of the experiment, the instructor asked, again, if anyone had questions or comments.

SITUATION 4

In your psychology class, your instructor announced that she was doing research on "informed consent". You and your classmates were not required to participate, and could withdraw at any time. Participation would not affect grades. There would be not risks for those who volunteered. The instructor summarized the aim and procedure of the study, read instructions and then asked you and your classmates if there were any questions. Your and your classmates were asked to indicate on a separate form whether you consented to participate or not. (The names of those who consented and those who did not consent would not be looked at until after course grade had been submitted.) The task was one in which you were asked to read summaries of two research situations and then evaluate the information given by researchers to potential participants. At the end of the experiment, the instructor asked, again, if anyone had questions or comments. The experiment was done during class time and was discussed as part of the lecture.

Appendix D

QUESTIONNAIRE

Date________________ Class_____________

Situation__________________

YES NO NOT SURE

___ ___ ___ 1. As a potential participant, you were given the opportunity to agree to participate.

Comment____

___ ___ ___ 2. You have been clearly notified that you are absolutely free to decline (refuse) to participate or to discontinue participation at any time. This has been made clear and you have been satisfactorily reassured that there would be no penalty or risk for not participating.

___ ___ ___ 3. As a potential participant, you were informed of all the features of the research that could influence your willingness to participate.

Comment____

___ ___ ___ 4. You were given the opportunity to ask questions about the research and about your participation, and were reassured that these would be fully answered.

Comment____

___ ___ ___ 5. In your research participation, you are fully protected from physical and mental discomfort, harm and danger. If there is some risk of such consequences, the investigator has informed you of such risks, has secured your consent before proceeding and has assured you that appropriate measures have been taken to minimize any such distress.

Comment____

___ ___ ___ 6. You have been reassured that any information obtained about you during the course of the research will be absolutely confidential. The investigator's plans for protecting confidentiality have been explained as part of the procedure for obtaining your consent to participate.

Comment____

___ ___ ___ 7. The researcher has established a clear and fair agreement with you about what your responsibilities and the investigator's responsibilities will be (such as, how much time will be involved, whether you will be paid, etc.).

Comment____

___ ___ ___ 8. If deception was involved, the investigator has fully explained the reasons for the deception, and has cleared up any misconceptions that have arisen.

Comment____

___ ___ ___ 9. If anything undesirable happened to you as a result of your participation as a subject in the research, the researcher has done as much as possible to detect and correct it.

Comment____

General comments:

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